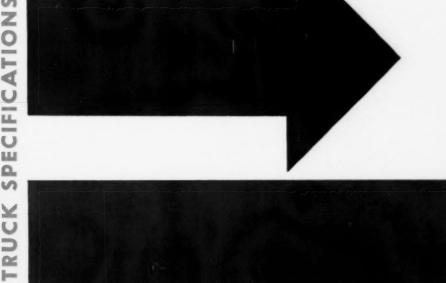
DISTRIBUTION AGE

A CHILTON D PUBLICATION

JUNE 1960

4



ANNUAL **EQUIPMENT** REVIEW

For Specifications See Page 59



3 NEW F series

ALLIS-CHALMERS LIFT TRUCKS

POWER-CRATER engine

Unique crater-shaped piston head in Power-CRATER engine, built by Allis-Chalmers, sets up violent swirling turbulence, thoroughly mixing fuel and air. Because of this proper mixing, a higher percentage of fuel is transformed into useful energy. Thus, Allis-Chalmers F series lift trucks effect substantial savings in fuel.

POWER-CRATER and POWER-SHIFT are Allis-Chalmers trademarks.

Outstanding working ability and convenience

- Power, balance and weight distribution to climb steep grades
- Roller channel steel masts for smooth, fast lifting
- Simple, "easy-to-turn" steering, one-lever gear shift
- Pivoted steer axle for smoother riding, positive traction
- Comfortably wide, adjustable, ventilated-cushion seat
- · Familiar automotive-type controls, key starting switch
- Positive, safe braking two systems: large two-directional hydraulic brake, mechanical parking brake
- Solid 2" x 5" bar-steel, heavy-duty frame—foundation for long life and dependability
- · Easy serviceability—seat tilts up for easy access to engine, clutch change in only 30 minutes, counterweight quickly removed
- Replaceable wet cylinder liners in engine save time and money
- Optional transmissions standard or Power-Shift drive

Let your dealer show you how new F series trucks do more, save more. Send for new bulletin BU-640. Allis-Chalmers, Milwaukee 1, Wisconsin.

IS-CHAL



Circle No. 1 on Card, Facing Page 82 POWER FOR A GROWING WORLD

Now! More Pan Am Clipper Cargo Flights every day, every week!

Pan Am ups cargo capacity nearly 100% with more Jets, more cargo-and-passenger planes...and more all-cargo planes than any other overseas airline!

It's the most convenient cargo schedule you'll find. With more flights! More Jets! Giant new DC-7F Clipper* Merchantmen, the world's biggest and fastest all-cargo planes! More and more reasons why your product is always sure to get aboard faster, abroad faster by Pan Am—and today, more often than ever, at less than the total cost for surface transportation! Want speed? Want space? And savings! Call your cargo agent, freight forwarder or Pan Am office today. Get your shipment aboard today—abroad tomorrow.



*Trade Mark, Reg. U. S. Pat. Off.





A complete quality-controlled service on your ltl, volume and truck-load shipments. Every detail—equipment, facilities, methods (and courtesy!)—designed to your expressed and researched recommendations . . . to help you ship more efficiently, more economically.

Phone for Pick-up, Rating or Routing Information Today.

SPECTOR FREIGHT SYSTEM, INC. Terminals In: Albany Baltimore-Washington Boston Bridgeport Buffalo Chicago Cleveland Decatur Eau Claire Indianapolis Kansas City Milwaukee New Britain New York Newark Peoria Philadelphia Providence Rochester Rockford St. Louis St. Paul-Minneapolis South Bend Springfield (Massachusetts) Toledo Topeka Wichita Worcester GREAT AMERICAN TRANSPORT (under Spector Management) Terminals In: Aurora Bloomington Detroit Flint Fort Wayne Jackson Joliet Lansing Pontiac Port Huron Saginaw Springfield (III.) SPECTOR FREIGHT SYSTEM, INC. General Offices: 3100 South Wolcott Avenue, Chicago 8, Illinois



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Vol. 59, No. 6

FEATURES

ESTABLISHED 1901

JUNE 1960

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This writer appraises standards set forth in reports on minimum, maximum, actual rates	
Conveyors Lead Way for Switch in Plant's Flow Pattern	40

After a check of its warehouse flow, this company switched to conveyors for most handling A frank discussion of container changes, bigger unit loads make up this appraisal of MH

State Regulation of Industrial Truck Operation This chart lists 47 states and their rules, regulations governing industrial truck operations DA Drops in on the Shows

A preview of the MHI's regional show in Boston and the Western Packaging & Handling Show Literature from the AMA Packaging Show Some of the literature introduced at this year's AMA Packaging Exposition, copies are free

This waterside terminal uses a trolley crane in place of a derrick boat for all handling Stanhaus Calls for New Techniques, Research Agency at TOC Convention New agency could develop vital techniques, research trucking interests without great cost

An Integrated Terminal

AWA Adopts Plan for "Effective" Group Two-year plan for AWA calls for revision of by-laws in preparation for 1962 joint meeting

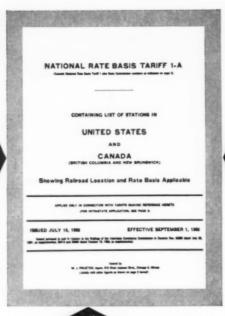
Industrial Truck Specifications Compilation of vital statistics concerning the basic models of industrial trucks, tractors

Powered Non-Lift Platform Trucks..... Powered Low-Lift Fork or Platform Trucks.....

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top value

...for the rates you pay

Nothing could be more factual, and more impersonal, than a freight tariff. It offers standard rates and a choice of routes, and no matter which way you ship, you're assured that your freight will move via the world's finest network of rail transportation!

But there are other considerations not set forth in cold figures. Time after time, shippers route "S.A.L." because of what does not appear in the tariff — the high quality of Seaboard service and the friendly, personalized interest taken in each shipment.

Transportation is our business, and we know that repeat shipments earned by providing thoroughly satisfactory service is the best kind of business.

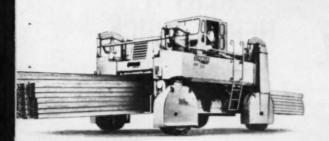


Ask us how Seaboard Piggyback service between North and South can help you.



TOWMOTOR-GERLINGER

offers you three complete capital-saving services!



1 YOU LEASE without down payment!

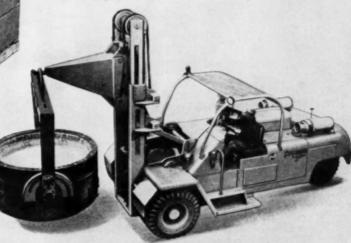
You don't make a *down payment* when you use the Towmotor-Gerlinger Lease-A-Truck Plan. You put T-G equipment to work on a continuous, year-'round basis. You just make a small monthly payment—paid out of savings the equipment produces.

2 YOU RENT without cash outlay!

You don't tie up working capital when you rent Towmotor-Gerlinger fork lift trucks and material carriers. You put them to work immediately. You start cutting handling costs immediately. Your only cash outlay is one small monthly charge.

3 YOU BUY and save as you pay!

You don't pay cash for Towmotor-Gerlinger equipment when you use our low-cost Time Payment Plan. You make reasonable monthly payments. Low interest rates make it easy. Handling economies consistently pay the monthly cost many times over.



Complete factory-supervised maintenance can be included in *any* of the above plans! For complete information, write Towmotor-Gerlinger Rental Division, Towmotor Corporation, Cleveland 10, Ohio.

TOWMOTOR
THE ONE-MAN-GANG

-GERLINGER

FORK LIFT TRUCKS, CARRIERS AND TRACTORS SINCE 1919

Gerlinger Carrier Co. is a subsidiary of Townstor Corporation

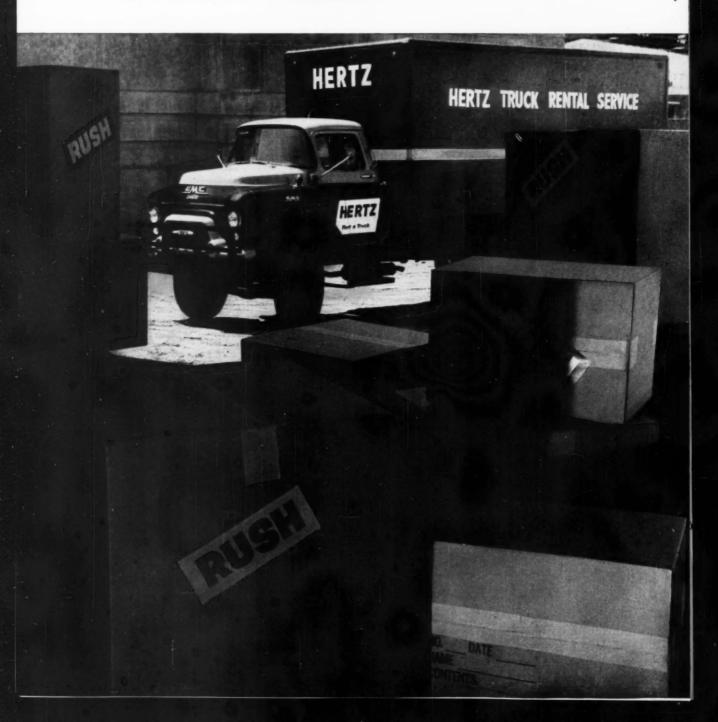
Peak delivery periods or emergencies are no problem for the man who uses convenient Hertz Truck Rental Service. At Hertz you'll be able to rent Chevrolet, GMC and other modern, sturdy trucks fast. Vans, stakes, panels and pickups in all sizes are always in readiness. That's because Hertz is America's No. 1 truck rental company with more than 500 truck stations in the U. S. and Canada.

All you need is a driver's license and proper identification—Hertz takes care of the rest. Hertz low rates include insurance...gas and oil (even if you buy it on the road). You can rent a Hertz truck by the hour, day, week or longer.

Even tractors and trailers for local or long haul use may be rented in many cities. Hertz also offers long-term, no-investment, no-upkeep truck leasing for economical year-round operation.



IF "IT" CAN'T WAIT... RENT A HERTZ TRUCK



CHUTING THE



Syfrit Is Named Publisher of Distribution Age

G. C. Buzby, president of the Chilton Co., Philadelphia, has announced the appointment of Kenneth A. Syfrit, of Chicago, as publisher of DISTRIBUTION AGE, effective June 1.

He will be located at the executive offices in Philadelphia, Succeeding Robert E. McKenna, who has published DA since 1952, Syfrit moves up from the position of sales man-

Before coming to the Chilton Co. seven years ago, Syfrit was employed by the DuPont Co. and as an account executive in the advertising agency business.

The new publisher attended Duke University and Goldey College, and attended accelerated courses in sales and engineering psychology sponsored by the Engineering Club of New York.

Syfrit is a member of the National Sales Executives Club, the Association of Industrial Advertisers, and the Central States Hardware Association and a former member of the TF Club of Chicago.

McKenna stated that he is relinquishing the position so that as vice president and director he may devote more of his time to the general development of the parent organization, Chilton Co.

He further stated that Syfrit, with his broad engineering, sales, and advertising experience in the related fields of distribution, is well qualified to develop the various facets of DISTRIBUTION AGE.

Transportation Group of NRMA Meets, Elects McDougal Chairman

John S. McDougal is the new chairman of the Transportation Committee of the National Retail Merchants Association. The traffic manager of Woodward and Lothrop, Washington, D. C., was elected to a one-year term of office.

Also elected at the Annual Conference was Robert E. Vantine, traffic manager, Bloomingdale's, New York, vice chairman.



Deliveries of new freight cars to the nation's railroads totaled 5950 in March, compared with 5052 in February and 2797 in March 1959.

North Atlantic Ports Confer

Safety regulations, port statistics, and fire prevention were among the topics discussed at the recent Annual Meeting of the North Atlantic Ports Association, Inc.

OSITL Picks Slate for 1960; R. A. Boyd Leads as President

New officers of the Ohio State Industrial Traffic League were elected at the League's Annual Meeting, recently. R. A. Boyd, traffic manager, Joy Manufacturing Co., New Philadelphia, Ohio, is the new president.

H. F. Wolton, traffic manager, Woolson Spice Co., Toledo, was elected first vice president; J. W. Lowry, assistant traffic manager, Babcock and Wilcox Co., Barberton, second vice president; G. J. Nowlin, transportation superintendent, National Lead Company of Ohio, Cincinnati, secretary; and R. J. Joyce, gtm, Central Ohio Paper Co., Columbus, treasurer.

(Please Turn Page)

SAM Award to Stanhaus



The 1960 Materials Handling Award of the Society for Advancement of Management was awarded to W. Stanhaus (left), president of Spector Freight System, Inc., Chicago. Shown presenting the plaque to Stanhaus is Warren King, SAM vice president-materials handling

Chuting the News . . .

(Continued from Preceding Page)

National Highway Users Conference Congress Elects Humphreys Chairman, Calls for Planning

At its Eighth Highway Transportation Congress, the National Highway Users Conference elected H. E. Humphreys, Jr., chairman of the Board of Governors.

He is chairman of the Board, United States Rubber Co. Elected along with Humphreys were Vice Chairmen Arthur M. Hill, director and chair-

man, The Greyhound Corp., and Herschel D. Newsom, master of the National Grange. Louis J. Taber was renamed secretary-treasurer.

In his acceptance remarks before the congress, Chairman Humphreys spoke of the continuing need for more and better highways and also the part advanced planning plays in reducing highway costs.

Rep. John A. Blatnik, of Minnesota, told the congress that the overhauling of highway legislation will be "a major must project" for the 87th Congress when it convenes in January. He said that such an overhauling is necessary if "we are to prevent what started out to be a highly promising and badly needed highway program from degenerating into an awful mess."

The Conference presented several awards. Six states were presented with awards of distinction for proficiency in showing progress in highway development to the public. The states receiving such awards were Arkansas, Colorado, Indiana, Michigan, New Mexico, and West Virginia.

The coveted Golden Milestone Award, conferred every two years in recognition of meritorious highway reports to the public went to Nebraska and North Dakota. It was the second time in succession that North Dakota captured the award.

American Standard specifications for metal drums and pails have been revised to comply with new ICC regulations. These specifications for ten standard steel containers, ranging from 5 to 55 gallons, are covered in a new publication available from the American Standards Association.

Forwarder Buys AEL

United States Freight Co. has bought working control of American Export Lines, the line which it has used in some of its international forwarding business.

Calif. Gains in Smog Battle

California has signed into effect a law which calls for antismog devices to be placed on all motor vehicles within three years of the date that two devices are certified for anti-pollution use.

Freight Co. Moves Scoreboard



The scoreboard at Chicago's Comiskey Park, home of the White Sox, was moved from the renovators by Steffke Freight Co. in a 40-ft open-top trailer. A crane lifted it to the scoreboard area well in advance of the season's

Annual Meeting of CSTL Elects A. G. Milligan President

The new president of the Chain Store Traffic League is A. G. Milligan. He is traffic manager for Sperry and Hutchinson Co., New York.

The League, at its 21st Annual Meeting voted other traffic men into office. They include G. L. Moran, gtm, Western Auto Supply Co., Kansas City, Mo., chairman-Executive Committee; R. A. Berry, traffic manager, Morgan and Lindsey, Inc., Jasper, Tex., southwestern vice president; G. O. Wilson, gtm, Gamble-Skogmo, Inc., Minneapolis, western vice president.

Also H. E. Chapman, traffic manager, S. S. Kresge Co., Detroit, eastern vice president, and W. F. Nizynski, traffic manager, W. T. Grant Co., New York secretary-treasurer.

RCCC Reaffirms Opposition to Piggy-Back Plans II, III, IV

The Spring Meeting of the Governors of the Regular Common Carrier Conference saw the formation of the Conference's specific opposition to Plans II, III, and IV.

A policy subcommittee is making continued studies into the piggy-back question and will report its findings, possibly, before the next gathering of the Conference. Marvin Blakeney, Jr., vice president of East Texas Motor Freight Lines, Inc., Dallas, heads the committee.

The Fall Meeting will be held in New York at the Waldorf-Astoria from Oct. 17 to 18.

Eastern Traffic Women Convene

-DA-

The first Eastern States Women's Traffic Conference was feted by the Women's Traffic Club of Philadelphia. Mrs. Adele Konefal was elected regional director; Miss Mary Alice Benson, assistant regional director; and Miss Margaret Moore, secretary-treasurer. Four states were represented at the Conference.

Product Product		Total shipments including interplant transfers			
	Product	1958		1954	
	Quantity	Value	Quantity	Value	
		(number of unita)	(\$1,000)	(number of units)	(\$1,000)
3565	Industrial trucks, tractors, total	xxx	275,184	XXX	254,822
	Industrial trucks, tractors, trailers, portable elevators, and accessories: Powered trucks and tractors:				
3565011	Trucks (operator walking)	10,595	20,306	8,452	10,93
	Trucks (operator riding) and tractors Electric (storage battery and gasoline-powered):	10,373	60,500	0,452	10,75
565021	Fork trucks	3,261	14,795	4,205	21,98
565029	Other industrial trucks and tractors	XXX	3,323	797	3,60
565031	Fork trucks	16,386	94,940	17,287	74,10
3565033	Trucks (except fork)	631	3,358	1,172	6,15
565035	Tractors	2,974	12,769	2,863	4,52
565041	All other trucks (operator riding) and tractors (including				
	Diesel, compressed-air powered, etc.)	(NA)	5,544	XXX	2,43
565051 565081	Portable elevators (stackers) excluding farm Parts and attachments and miscellaneous equipment (sold	2,870	3,771	4,775	3,630
	separately). Hand trucks and trailers (including dollies and platform trucks):	XXX	44,703	XXX	61,04
3565061	Hand lift	(NA)	11,581	xxx	11,279
3565065	Other hand trucks and trailers (including two wheel, four	()			
	wheel, dollies and platform trucks)	xxx	30,257	XXX	30,927
3565071	Metal pallets and skids (excluding wood and metal combination)	xxx	6,786	xxx	12,92
3565000	Industrial trucks and trailers, not specified by kind	xxx	23,051	xxx-	11,26

xxx Not applicable.

IISCOM--DC

This chart includes the quantity and value of these products reported not only by establishments classified in the Industrial Trucks and Trailers Industry but also by establishments making these items as "secondary" products

NWPM to Meet June 26 in Mass.

The 14th Annual Meeting of the National Wooden Pallet Manufacturers Association will be held at the Chatham Bars Inn, Chatham, Mass., June 26 through 28.

Club Briefs

Installation of officers was held recently at the 10th Annual Dinner Meeting of New York Omicron Chapter 42, Delta Nu Alpha.

The International Air Cargo Sales Club of Chicago had Julian D'Esposito, of Container Corp. of America, as its speaker at a recent meeting. He spoke on the advantages of corrugated and solid fibre shipping containers.

The Traffic Club of Denver recently held education night. Dr. Paul T. McElhiney, chairman of the Transportation Department, University of Denver, was the speaker.

The Traffic Club of Houston picked Karen Sanford as Miss Transportation for the group's annual observance of Transportation Week.

A panel discussion on "Sales and Cooperation or Chaos" was the subject at a meeting of the American Society of Traffic and Transportation which was held recently in cooperation with the Sales Executive Club of New York.

Thomas Elected President at ICC Practitioners' Annual Meeting; Relations With ICC Discussed

Starr Thomas is the new president of the Association of Interstate Commerce Commission Practitioners. He was elected at the group's 31st Annual Meeting, recently.

Mr. Thomas is general solicitor for the Atchison, Topeka, and Santa Fe Railway Co. in Chicago. Also elected to serve the practitioners during the

year were James K. Knudson, Washington, D. C., secretary, and Harry A. Brashear, adviser to the traffic service of Aerospace Industries Association of America, Inc., Washington, D. C., treasurer.

New regional vice presidents were elected. They are Lawrence Peterson, gtm, Eastern Gas and Fuel Associates, Boston District 1; David G. Macdonald, attorney, Washington, D. C., District 3; E. B. Ussery, Columbia, S. C., District 5; R. Wray Henriott, general attorney, Louisville and Nashville Railroad Co., Louisville, Ky., District 7; and Harold E. Spencer, attorney, Chicago, District 8.

Also Edmund A. Nightingale, University of Minnesota, Minneapolis, District 9; Bruce W. Russell, traffic manager, Service Pipe Line Co., Tulsa, Okla., District 11; Fred H. Booth, general freight agent, Denver and Rio Grande Western Railroad Co., Denver, District 13; and H. O. Berger, traffic consultant, Seattle, Wash., District 15.

During two days of meetings, the practitioners discussed the legal problems which arise from coordination of transport, use of cost evidence, Suspension Board procedures, and transportation and the next decade.

(Please Turn to Page 26)

-DA-

Construction contracts have been completed on 5997 miles of the National System of Interstate and Defense Highways at a cost of \$2.51 billion, since July 1, 1956.



Everyone in the TIME organization — and this adds up to better than a thousand dedicated people — is *trained*, trained with the latest audio-visual or on-the-job techniques.

TO KNOW

Why should this matter to you?

Only for one reason – it means that each and every step your freight goes through, from pickup to delivery, is supervised by a TIME employee who knows *EXACTLY* what to do.

Pay off?

You bet it does, it pays off in dependability all the way along the line, a dependability that made TIME the nation's first scheduled carrier . . .

A dependability that still makes TIME the nation's only all scheduled carrier.

Ship via TIME for scheduled service to 35 states!

THE BIG STORY: the way TIME does things!



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A NEW HIGH...IN VALUE A NEW LOOK...IN STYLING A NEW LOW ...IN PRICE

AUTOMATICS Operated LIFT TRUCKS

value Plus—Automatic's simplified power package offers the ultimate in high operating efficiency, low cost of operation, and maximum safety. A gas engine and variable voltage generator, precisely matched, supply exact power to the electric drive motor...no clutch or hydraulic torque converter to cause trouble or worries. Here are a few of Automatic's plus value features:

- Operates on 25 to 30% less fuel
- 50% longer hydraulic pump life
- Oversize brakes last up to 30% longer and are adjustable without removing wheels
- Longer-life, advanced-design roller mounted uprights
- Ventilated exhaust dispels fumes
- New 3-way adjustable seat increases driver efficiency—reduces fatigue

MODERN STYLING-New orange and blue color combination. Automatic's

new special high visibility safety orange adds another safety plus feature to your plant, while its new royal blue color accentuates the truck's low center of gravity and high stability.

THE PRICE IS RIGHT—No longer a premium-priced truck, but priced competitively with trucks which use hydraulic torque converters.



AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Manufacturing Company
115 West 87th Street, Dept. H-OA, Chicago 20, Ill

FIRST IN IMAGINATION
FIRST WITH REALITY



CAPACITIES:

3,000 to 10,000 lbs. with cushion tires.

CAPACITIES:

3,000 to 8,000 lbs. with pneumatic tires.



LEARN MORE ABOUT
AUTOMATIC'S COST-CUTTING
LIFT TRUCKS

Please send me complete details about Automatic Gas-Operated, Electric-Driven Lift Trucks, in capacities

of_____lbs.____lbs.____

NAME FIRM.

ADDRESS

CITY & ZONE STATE

Circle No. 3 on Card, Facing Page 82, for more information

Working Tool

To The Editor:

In reply to our request, you were kind enough to send us two copies of the Container Selection Slide Rule which appeared in the Feb., 1958, issue of DISTRIBUTION AGE. We are wondering now if it would be possible would be possible to purchase four more copies of this Slide Rule? Our warehouse personnel has found that it is an invaluable "working tool" and, if at all possible, we would like to give each of our foremen a copy.

M. M. Hamilton

Dixie Warehouse & Cartage Co.,

Louisville, Ky.

There are still a few reprints of
this slide rule available if any other
DA Readers desire them. For copies, write to me .- The Editor.

Damage-War Leadership

To The Editor:

We find your article on Page 37 of the April issue, entitled "Needed-

leadership in the war on damage," by Boris P. Rosanoff, extremely interest-

Would it be possible to obtain about 25 reprints of this article for our use?

Very truly yours, Charles H. Black Sales Promotion Manager

Metal Edge Industries, Barrington, N. J.

Reprints of this article are available and requests are being filled as they come in .- The Editor.

Picture Too Broad

To The Editor:

Your "The Inside Study of How an Industry Moves" (May 1960, Page 48) is a story with a misleading headline. While this industry-wide moving information was worthwhile, it was not half as good as a real close-up view of one industrial company moving. That is what I expected to read.

With all of the moving of entire plants by different companies, surely there would be great interest in a story of how this type of move—both plant and personnel—is carried out. Why can't we have this type of story? Yours truly, Harry Rogers

Boston, Mass.

Our use of the word "industry" referred to an entire industry rather than one company. However, your suggestion of a one-company study has considerable merit and will be considered for a later issue.-The

New at Long Beach Harbor



The 74-ft mural with reflection pool is one aspect of Long Beach Harbor's new administration building. Scenes in the mural depict the development of the Harbor along with historical California background

RELAX—When Moving Company Personnel



GIVE THE JOB TO ATLAS VAN-LINES

Employee satisfaction and morale are important . . . your local Atlas Agent can relieve you and the employee of many worrying details. He's willing to accept responsibility, he has the facilities; packing, storage and other necessary services. His service is economical . . . one move or many moves, you can always Relax with Confidence.

Relax! Call Your Local Atlas Agent...he's listed in the yellow pages of your local phone book.

ATLAS

WAN-LINES, INC. General Offices: Evansville, Indiana single line and nationwide . moving . storage

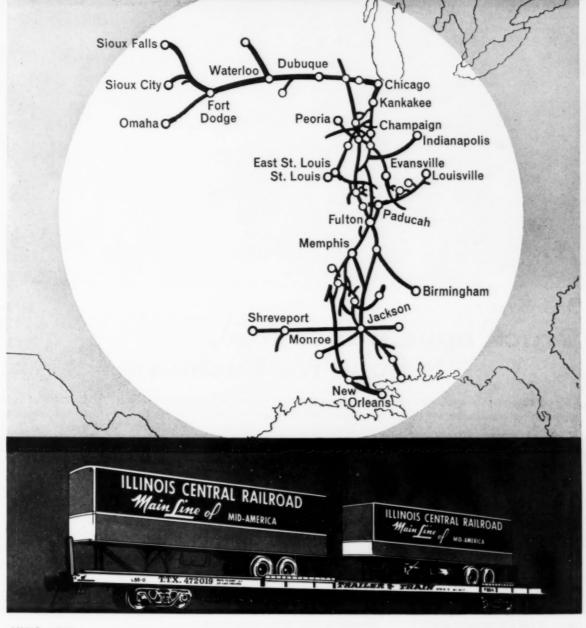




The map tells the story—almost every strategic business center in Mid-America enjoys the benefits of Illinois Central Piggy-Back service. In addition, many communities fanning out from these points are serviced directly through our overthe-road truck operations.

Illinois Central Piggy-Back service is constantly on the move—85 ft. flat cars that carry two full-size trailers are now available to us through the Trailer Train Company. This arrangement enables us to provide extended and more flexible service. It also simplifies exchange with other railroads and expedites delivery.

ILLINOIS CENTRAL RAILROAD Main Line of Mid-America





Drewrys takes pride in the appearance as well as the performance of its Mack fleet. B-61ST models haul GCW loads of 72,000 lbs. on high-speed toll-road runs.

At Drewrys

Truck appearance, too, is good for business



"We not only count on our trucks for top-notch performance, but use them to help create a favorable impression for our product with customers and prospective customers," says an executive of Drewrys Ltd., U.S.A., Incorporated, of South Bend, Indiana. "Macks' rugged, honest, businesslike appearance and outstanding performance record fit the bill exactly."

And there's a big dollar reason, too, behind Drewrys' choice of Macks. Says Fleet Manager K. W. Riffel, "Ours is an 'arrive—unload—load—and on the road again' type of operation. We're expanding territories... and at the same time trying to keep

costs down. Our Mack trucks supply the dependability needed to maintain schedules day after day and still give us maximum fuel and maintenance economy. After more than 150,000 miles per unit, we are averaging 6.5 to 7 mpg with maintenance of only one cent per mile, including oil and filters."

Drewrys' profitable experience with Macks is right in line with similar reports from all over the country, and results from the different way in which Macks are built. A Mack truck is a quality vehicle. It is not just Mackassembled—it's Mack-built. Mack manufactures its own engines, axles,

transmissions, cabs, and other components. Every vital part is built by Mack for Mack trucks alone... Mack quality features consistently produce superior performance and balance-sheet savings. So why not put Macks to work in your operation? Your Mack branch or distributor is the man to see. Mack Trucks, Inc., Plainfield, New Jersey. Mack Trucks of Canada, Ltd., Toronto, Ontario.

7724

MACK First name for TRUCKS



Why Users Prefer Electric Trucks Powered by Gould Batteries

LOWER OPERATING COSTS. Battery-powered electric trucks save in the three most important areas of cost breakdown: maintenance, fuel and depreciation. They effect economies so substantial that the overall cost per ton-mile is less than half that of other types of trucks.

LESS MAINTENANCE. Simpler construction, fewer moving parts and vibrationless rotary motion of the electric motors make minimum repair and replacement self-evident. QUIET, CLEAN, AND SAFE OPERATION. Electric trucks greatly reduce noise levels, make work conditions more pleasant. Electric trucks do not smoke, drip engine oil, or have an exhaust to stir up dust. Finally, electric trucks are entirely safe, can be used in dangerous atmospheres.

Electric truck users generally agree on one other point, too—Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life through prevention of grid corrosion, the most common cause of battery failure.

Join the list of users who prefer this ideal combination of electric trucks and Gould Batteries for modern, efficient materials handling. For more information, write or call your local Gould representative. Ask for booklet "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., Trenton 7, N. J. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to you from GOULD

Circle No. 5 on Card, Facing Page 82, for more information



WASHINGTON

By Neil R. Regeimbal, Chilton Washington News Bureau

OPPOSE HOURS COVERAGE — Shippers are asking Congress not to extend the maximum hours provisions of the minimum wage-hour law to carriers. Legislation, now pending in Congress and with a fair chance of passing, would remove the exemption of carriers from the maximum hour provision. This would make present wage structures derived by collective bargaining unworkable; precipitate industry strife, and create added shipping expense, the National Industrial Traffic League recently told the House Labor Committee studying the proposal.

URBAN EXPRESSWAYS SAFE—Administration plans to cut city expressways out of the interstate highway construction program have been dropped. Strong support for continuing to include them in the program from congressmen and large shippers triggered the change.

STUDY TRUCK-RAIL SUIT—The U.S. Supreme Court will be the final referee in the 1956 public relations fight between 24 Eastern railroads and a group of 40 Eastern trucking companies. The high court has agreed to review a lower court ruling ordering the railroads to pay \$652,000 in damages to the truckers. Damages were awarded after the lower court ruled the railroads had violated the antitrust laws by conspiring to try to destroy the truckers. The Supreme Court will hold hearings on the case in its term which begins next October.

SECOND ICC PROBE—The ICC, already investigating itself, is now under study by the U. S. Budget Bureau. This latest study, by a private business consulting firm, is interested in the steady rise in expenses and personnel at the Commission. Budget request for next year is \$20.5 million, compared to \$17.4 million in 1958.

CHARGE SHIP ANTITRUST VIOLATIONS
—A congressional committee is charging widespread violations of the shipping and antitrust
laws by ship companies, many under dual rate
systems. The charge is made by Rep. Emanuel
Celler, D., N. Y., who says hearings by his House
Antitrust Subcommittee last fall turned up 57
possible violations of the antitrust laws and 141
possible cases of illegal rebates and other shipping act violations. He says Justice Department
and Federal Maritime Board officials have made
some progress toward clearing up the situation.

STUDY ROBOT SHIPS—A fleet of American "Flying Dutchmen" may some day ply the high seas, running for a month or more between ports without a crew. The Norden Division of United Aircraft Corp. has been awarded a contract to study the possible methods and practicality of developing a system whereby a merchant ship would sail by automatic and electronic means without a crew from the time an outbound pilot is dropped until the inbound pilot picks up the ship.

LIMIT JOINT RATES—The ICC has sided in favor of the railroads in the bitter fight over joint rates between the rails and water carriers. The Commission indicates it won't order rails to set up joint rates unless the water carriers can show costs low enough to justify a differential. The ruling came in a dispute involving Seatrain Lines Inc. and several Eastern railroads over rates on pulpboard from Georgia to New York. Railroads had cut their rate, and Seatrain sought a joint rail-water rate even lower. This was not ordered, but ICC did not throw out altogether the principle of compulsory joint rates.

IMPROVE PLANE LOADING — Douglas Aircraft Co. researchers have come up with what they term a new and more efficient, standardized, system for loading palletized cargo aboard transport planes. The need for better practices has increased with the advent of larger cargo craft. The study covers mechanized systems for lowfloor, rear-loading planes, and high-floor, sideloaders too. Two standard size pallets make the best use of space in the greatest number of plane types: 7 by 10 ft, and 5 by 7 ft. Details are available from the Office of Technical Services, Washington 25, D. C., in publication PB 161294 (\$2.50).

LIMIT IRREGULAR AIRLINES—Legislation to again permit the Civil Aeronautics Board to limit the type and extent of services which some irregular air carriers may provide is being studied in Congress. Senate Aviation subcommittee held hearings on the measure in late May. It was requested by the CAB after a federal court of appeals ruled that present laws do not permit the agency to continue issuing some temporary certificates for supplemental air service. Outlawed were those which permitted limited operations by irregular airlines without specified terminal or intermediate points.



Photo courtesy of United Air Lines

DOWNTIME

Costs start climbing the minute a fork truck goes out of service. The national average for truck downtime is conservatively estimated to be \$16.48 per hour. An important reason why fast, qualified parts service is essential.

It's why Clark dealers offer you the largest inventory of parts in the industry. It's why Clark maintains a 16,000 mile private wire communication system. It's why Clark has built a multimillion dollar parts warehouse near Chicago's Midway Airport.

Everything in the Clark service system is geared to speed. Vital materials handling equipment must be back on the job fast! To assure you of fast service Clark provides you with over 117

service facilities throughout the nation . . . each carrying a complete parts inventory. To back this up, the Clark Central Parts Depot maintains an inventory of over 5 million parts . . . emergency parts that can be air-shipped to any part of the country in a matter of hours. *Only* Clark offers you this service.

Want to see how it's done? A colorful brochure and a film strip describing this service system are available through your local Clark dealer. You'll find him listed in the yellow pages under "Trucks,

Industrial." Or, if you prefer, write direct to: Clark Parts Service, Clark Equipment Company, Battle Creek, Michigan.



BACKBONE

OF DEFENSE!





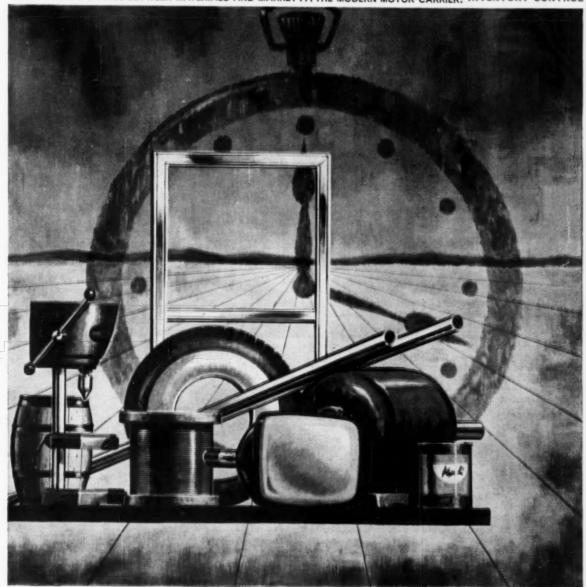
AMERICAN TRUCKING INDUSTRY

American Trucking Associations, Inc., Washington 6, D. C.

THE WHEELS THAT GO EVERYWHERE



CLOSING THE DISTANCE BETWEEN MATERIALS AND MARKET ... THE MODERN MOTOR CARRIER: INVENTORY CONTROL



Where did the time go? How to gain hours to cut production lead times—keep inventories fluid—distribution solid? Facilities for controlled shipping by Eastern Express permit tighter delivery schedules and more flexible flow of goods. Your firm can enjoy direct-to-destination delivery minus needless delays. That means reduced transit time, more rapid turnover for Eastern shippers.





Eastern go-how keeps goods moving

TL and LTL delivers to any point on the map—economically, on-time.

Direct, thru-trailer service one pickup, no stopovers, no "break-bulk" enroute, lower handling cost.

Modern data processing and communications systems to speed up paperwork — help shippers keep tabs on inventories—provide positive control all the way.

GENERAL OFFICES: 1450 WABASH AVENUE, TERRE HAUTE, INDIANA • Connecting the Eastern Seaboard with the Industrial Midwest:

Akron • Baltimore • Bethlehem • Boston • Bridgeport • Chicago • Cincinnati • Cleveland • Columbus • Dayton • Evansville • Ft. Wayne

Harrisburg • Indianapolis • Metuchen • New York City • Philadelphia • Pittsburgh • Providence • St. Louis • Trenton • Zanesville

Men in the News

Traffic

Marshall M. Parkhurst-promoted to general traffic manager of International Harvester Co., Chicago.



John B. Carnahan-traffic manager for H. J. Heinz Co., has been selected by Massachusetts Institute of Technology for an Alfred P. Sloan

Fellowship in Executive Development.

Harold E. Duffy-named general traffic manager; Allan R. Wycofftraffic manager-rates; William M. Kicher-traffic manager-mill service; and Roger A. Yaple-special assistant to the general traffic manager, the New York & Pennsylvania Co., Inc. Traffic Department headquarters will be at Johnsonburg, Pa.

Alfred J. Kneessy-to fill newly created job of manager-transportation planning and control; Oliver P. Kidder -traffic manager, Brown & Williamson Tobacco Corp., Louisville, Ky.



C. M. Thomas - appointed director of sales-special services for The Greyhound Corp. He will include the direction of package express in

his new duties.

Edward T. Stanton-appointed service and traffic manager by Edwards

Co., Inc., Norwalk, Conn.

Frank W. Dalglish-becomes Pacific Coast traffic manager, Boyle-Midway Division, American Home Products Corp. His office will be in Los An-

James C. McQuaid-new traffic and distribution manager for the W. J. Voit Rubber Corp., Los Angeles.

Donald W. Crane-appointed traffic manager, Toilet Articles Division: Wesley Morrow-rate analyst of the Toilet Articles Traffic Department; Samuel Siegel-manager of passenger traffic; and Harold Ward-new traffic manager of the Jersey City Toilet Articles Plant, Colgate-Palmolive Co.

Rex N. Miller-named to new position of western traffic manager, Reynolds Metals Co., with office in

Los Angeles.

Clifford F. Rickel-becomes general traffic manager of the Sheffield Division, Armco Steel Corp., Kansas City, Mo.

Miss Edith H. Cockrill-newly appointed examiner for the ICC.



Des Goodwinnewly appointed corporate traffic Burmanager, roughs Corp., Detroit. He succeeds T. W. Kimmerly who retired after 41 years with the

Floyd T. Neubauer and Roger W. Holden-have joined management consultant firm of Cresap, McCormick and Paget in Chicago.

Transportation—Air

Alvin E. Levenson-cargo manager of KLM, received the 1960 Air Cargo Man of the Year award from the Air Freight Forwarders Association.

Ross Angier-named director, Distribution Consulting Service; John Kersey-director, Commercial Airfreight Sales; and A. S. Carota-director, Forwarder and Interline Airfreight Sales, American Airlines.

—Highway

Charles F. Holsclaw-named ATA field service representative for Arizona, Colorado, Idaho, Montana, Utah, and Wyoming.

G. W. Clark-new director of public relations and advertising for Pacific Intermountain Express, Oakland,

Fred Burke-promoted to manager of operations, Spector Freight Systems, Inc., Chicago.

Richard Eicher-named manager of the Seattle Terminal of Denver Chicago Trucking Co., Inc.

S. M. Christovich-new director of operation for the Common Carrier Division, Ryder System, Inc.

-Rail

Anthony F. Arpaia - named vice president-international services; Robert Adler-named manager, coordinated traffic development, Railway Express Agency, New York.





Amos A. Berkley (left) and Leslie I. Varner (right)-elected vice presidents of North American Car Corp.

Charles R. Lewis-becomes manager of sales for the Sparton Corp.

R. P. Tallman - general freight traffic manager of the Gulf, Mobile & Ohio Railroad, Mobile, appointed to the Board of Directors of The Associated Traffic Clubs of America.

-Water

S. Sloan Colt-re-elected chairman of The Port of New York Authority.

Materials Handling

George A. Jones-new general manager of The Colson Corp. plant at Jonesboro, Ark.

Jack B. Trussel—named sales man-

ager of Mobilift Co., new materials handling division of Minneapolis-Moline Co., Hopkins, Minn.

Sheldon K. Towson, Jr. - elected general manager; Peter Roberts-appointed advertising manager of The Elwell-Parker Electric Co., Cleveland.





Newcombe C. Baker, Jr., (right) and J. Henry Brown (left)-promoted by Yale Materials Handling Division, The Yale & Towne Manufacturing Co. Baker is manager of marketing services. Brown is advertising, publicity and sales promotion manager. Their headquarters is in Philadelphia.

Edward W. Haskell - new sales manager of Truck-Man Lift Trucks, Jackson, Mich.

Elmer J. Dunham-pioneer in the materials handling field, retires from Clark Equipment Co., Battle Creek, Mich.





George W. Green (right) - appointed advertising and sales promotion manager of Hyster Co. Walter A. St. Clair (left)-named sales manager of Hyster's Industrial Truck Division. The company is located in Portland, Ore.

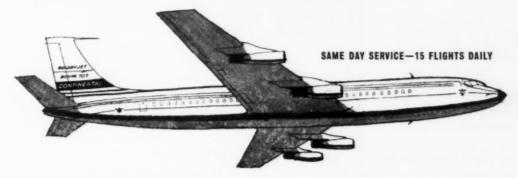
Paul A. Fisher-chief engineer of Louisville, Ky., operations of Anaconda Aluminum Co., named general chairman for the Technical Conference to be held during the MHI Central States Show.

Robert E. Brooker, Clarence E. Killebrew, Walter E. Schirmer, and John R. Wood, Jr.-elected directors of Clark Equipment Co., Buchanan,

Eric Rice-elected vice president of Stokvis-Multiton Corp. His office will be at Port Washington, N. Y.

Only on Continental—most experienced jetline in the West!

THE MOST PURE JET CARGO FLIGHTS BETWEEN CHICAGO AND LOS ANGELES



Golden Jet Boeing 707s serve Denver and Kansas City, too!

Even people can't travel between Chicago and Los Angeles any faster than your cargo can—on Continental's 600-mile-an-hour Golden Jet transports. The reason?—a cargo schedule just as convenient as a jet-age passenger schedule! Goods are delivered the day they're shipped.

Giant-size doors on the Golden Jet open into a giant-size cargo hold. Your goods—small or large—board gently and travel in heated, pressurized, jet-smooth comfort—just as you would if you were a passenger upstairs. Perishables, critical compo-

nents, deadline merchandise, arrive when they must —on time.

Continental's jet-power cargo fleet also includes the only Viscount IIs in the nation, and serves twenty-three cities in the West and Southwest. To find out how to put this jet-power fleet to work for your company, contact your airfreight forwarder or write Mr. Lee Slay, Director of Air Cargo Sales, Continental Airlines, Stapleton Field, Denver 7, Colorado.

New! Low deferred freight rates now available between Chicago, Kansas City, Denver, Los Angeles.



MOST EXPERIENCED JETLINE IN THE WEST

YOUR Kansas City Branch



BROKERS BUILDING



SECURITY BUILDING



TERMINAL BUILDING

CHECK THESE ADVANTAGES

Modern Buildings
Choice Locations
Low Insurance Rates
Responsible Management
Spacious Switch Tracks
Ample Truck Loading Doors
Streamlined Handling Equipment
Pool Car Distribution
Local and Long Distance Trucking
Rollway Express—Parcel Post

COMPLETE BRANCH HOUSE FUNCTIONS

Including:

Receiving Storing Marking Weighing Reconditioning Shipping Invoicing
Sight Drafts
Collections
Stock Control
Inventories
C. O. D.

Freight Prepayments

Why spend valuable time and money organizing privately managed branch house facilities?

Why pay for fixed branch house overhead, when you can't use it?

Years of experience have enabled us to create a comprehensive service—broadened in scope to a point that it includes all of your branch house functions, except selling. A service that measures up to your most exacting requirements—yet is so flexible that it can be instantly expanded or contracted to fit your current needs as they may vary from month to menth or year to year. A service that grows and goes along with your business and provides real economy on a per package per month basis.

Investigate this sound, simple and economical way to bring your products into this great buyer's market. We invite your inquiries. No obligation, we assure you.

> If you have a warehousing and distribution problem, do not hesitate to consult us. We are in a position to give you valuable assistance establishing such facilities at all key points throughout the country.



A NEW FACILITY
OUR OWN PRIVATE TEAM-TRACK

Pool car shipments are transferred directly from cars to our own fleet of motor trucks for immediate delivery to your customers in Kansas City and points nearby. Another convenient and economical service.

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General Office: 5967 West 65th St., Chicago 38, III.

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Members of the American Warehousemen's Association

On the Line-



The Hard Way

About 18 months ago, a reader asked for help with a materials handling problem. Actually, it was not one problem. It was a series of problems, too complex to answer by mail.

We wrote this reader, recommending either the hiring of a full time materials handling engineer or a consulting engineer.

Six months later we were in that reader's city. Curious as to how this problem was solved, we 'phoned him. We learned that the problem was unsolved but he was working on it.

He had called in two consultants. He asked each to submit a proposal. They looked over the plant and said it would take two or three weeks. They asked for a fee to cover this work. We thought that was fair. Our reader did not.

By this time, he had picked up enough general information to believe he could handle the problem himself. He called in six or seven material handling equipment salesmen and asked for ideas and costs. He said he was trying to decide between their recommendations.

Months passed before we returned to that city. Again, we 'phoned him.

We learned that the problem took so much time that he hired a materials handling engineer to carry on. Some equipment was bought and in use but the results were below expectation. We thought he was blaming us.

He asked us to come to the plant and talk to the engineer. We went and found a mess. First, the engineer told us that his boss chiseled on every detail. He bought three fork trucks, for example, on the basis of average weight handed instead of maximum. It turned

weight handed instead of maximum. It turned out that service demands remained in the maximum expected, and sometimes higher. As a result, there were mechanical failures

As a result, there were mechanical failures and safety slow-downs. All good fork trucks include an overload safety factor in their ratings—but not 120 per cent!

The engineer showed us a conveyor setup that he cautioned us to observe at a distance. There were no guard rails at turns, no controls at intersections, the electric motors were below safe load ratings. And so on.

We saw the boss before we left. We agreed

that improvements were needed, but that the engineer had them figured out. We suggested that his recommendations be followed.

A day or two after we returned from that trip, we had a visitor. It was the engineer. He said that, after getting blamed for a couple of accidents, he quit. On the day he left, the union threatened a strike if some safety changes were not made. They called in the state safety inspector.

Our reader obviously tried to save money on this big materials handling installation. But chiseling is the hard way.

"Just a Minute"

Telephoning is a fast way of giving and receiving information. It also can be the hard way. It all depends on the people who answer their 'phones.

One morning, recently, we placed a call from a 'phone booth. The telephone operator at the company we called said the man we wanted was busy. Would we wait? We said we would.

Minutes went by. It was obvious that the operator forgot us. We jiggled the hook. The dime dropped.

We tried again. And again, the line was busy. Would we wait? This time we asked to speak to the man's secretary.

We got her. She said her boss was on another wire, would we wait? The odds seemed better this time, so we waited—and waited. We jiggled the hook. The dime dropped. We quit!

We placed another call. This man was out. We asked for his assistant. We got him.

We stated our business. He said he knew nothing about the matter. "Would someone else know?" we asked. He didn't know. We didn't coax!

We had one more call to make. Despite some doubts, we dialed the number. A musical voice answered. We asked for our man.

"Just a minute, please," the operator replied sweetly. We waited—and waited—and waited. Then the line went dead!

If we get time, we'll write these fellows. If not-well, who cares?

Acrone____



• TIME-SAVER Service supplies speedy door to door shipment of less-carload freight. But, it's the baby-like treatment B&O gives LCL that grows on shippers. B&O people exercise unusual care on trains and platforms, in yards and terminals to handle each shipment as though it were a family affair—with baby-like care.

Ask our man!



Yakkety Yak By Ye Editor



Everybody gets a wrong number sometime. We thought we did when the operator answered, "Bell Realty."

"Bell Realty!" we said with surprise. "Sorry, Miss, wrong number."

Before we could hang up, the voice replied, "Oh! Oh! Excuse me, sir, I'm just starting here. My last job was with Bell Realty."

... But the classic wrong number story is the one where the boys were having a party and ran out of liquor. The host called Joe's Bar.

"Reverend Brown speaking," answered a voice softly.

"Reverend Brown? Reverend what are you doing in Joe's Bar?" asked the surprised host.

BOOKS—For aspiring young executives, dead-ended department heads, as well as for June graduates, we suggest "OPPORTUNITY UNLIMITED: What Management is Looking for in You," by Mark Clifton; Chilton, \$3.95.

The author—a personnel director and labor-management expert — offers "The inside track on what management wants and expects from candidates for promotion."

At least half of the book provides good background for would-be Distribution Managers.

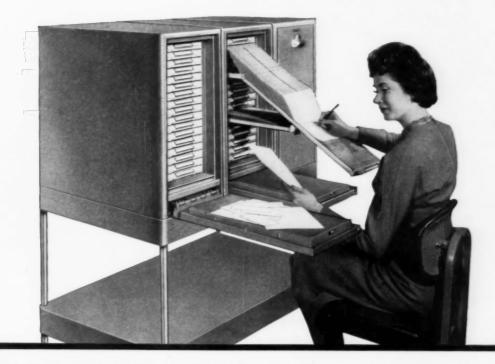
Roland L. Kramer, Ph.D. A practical, comprehensive text. Divided into three parts: The Bases and Promotion of International Marketing, International Marketing organizations and Methods, Technical and Financial Features of International Marketing.

JUNE JIBES—If you doubt that our college girls are ambidextrous, note how many graduate this June with diplomas in one hand and an engagement ring on the other.

Mike: "So you met your wife at a dance. Wasn't that romantic?"

Ike: "No, it wasn't. I thought she was at home minding the kids."

HOW PUBLIC WAREHOUSES ARE REDUCING CLERICAL WORK...YET GIVING BETTER CUSTOMER SERVICE



KARDEX® VISIBLE RECORD SYSTEM SIMPLIFIES STOCK CONTROL AND CUSTOMER BILLING. More and more warehouses are turning to the KARDEX Visible Stock Control System because it saves time and money. This system provides closer control over merchandise... and automatically supplies necessary billing data. As a result month-end work on statements is reduced, bills go out more promptly. And your money comes in faster!

Where a large variety of items from one client is consigned to the warehouse for local delivery, the KARDEX system can group the products of one customer together by means of its unique

CHAINDEX® visible index, making possible review and posting of numerous items in seconds! Also a great deal of space is saved as thousands of items are housed in a single unit! Colored KARDEX signals in the visible margins flash items nearing minimum stock points, thereby making possible prompt customer reports to avoid loss of sales due to stockouts.

The KARDEX system is also available in Safe KARDEX insulated units to protect these valuable records right at pointof-use from destruction by fire.

Send coupon TODAY for free, illustrated Warehousing Methods Sheets giving full particulars about this efficient system.

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Kindly send free literature on recommended "Warehousing Methods" X1790.1 and X1790.2

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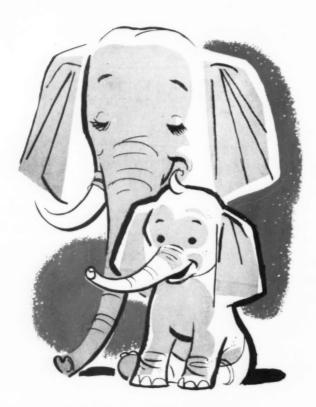
Name & Title____

Company___

Address

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LITTLE PACKAGE BIG SERVICE



Coordinated communications assure constant control of cargo. Experienced, efficient handling assures safe, speedy delivery.



When it's LTL...it's NTL 43 TERMINALS SERVING 3,000 POINTS DAILY



NORWALK TRUCK LINES, Inc., Norwalk, Ohio NORWALK TRUCK LINES, Inc., of Delaware Operating and Sales, Lancaster, Pa.

(Continued from Page 26)

News Briefs

KLM Royal Dutch Airlines has started its daily DC-8 jet service to Europe from New York. KLM will also start its direct jet service to Europe from Houston, Texas, in July. ICC examiner Hyman J. Blond has recommended approval of the merger

plan between the Erie Railroad Co. and the Delaware, Lackawanna &

Western Railroad Co.

The TTMA has petitioned the ICC for a delay in the effective date for the marking of lamps and reflectors from June 30, 1960, to Dec. 31, 1961.

The Sea-Land Service, Inc., has doubled its weekly trailership service between the Port of New York and Puerto Rico under a new division named Sea-Land of Puerto Rico. William O. Gohlke, previously Pan-Atlantic sales manager, has been appointed vice president and general manager of Sea-Land of Puerto Rico.

The Transportation Association of America with the cooperation of 20 Wisconsin organizations held the Midwestern Transportation Institute, re-

cently.

Two executives from the Air Express International Corp. predict that there is a brilliant future in air traffic of electrical and electronic equipment between the markets of the United States and those of the Orient and Australasia.

T. I. M. E., Inc., has installed a new private line continuous telephone system linking all 20 of its terminals.

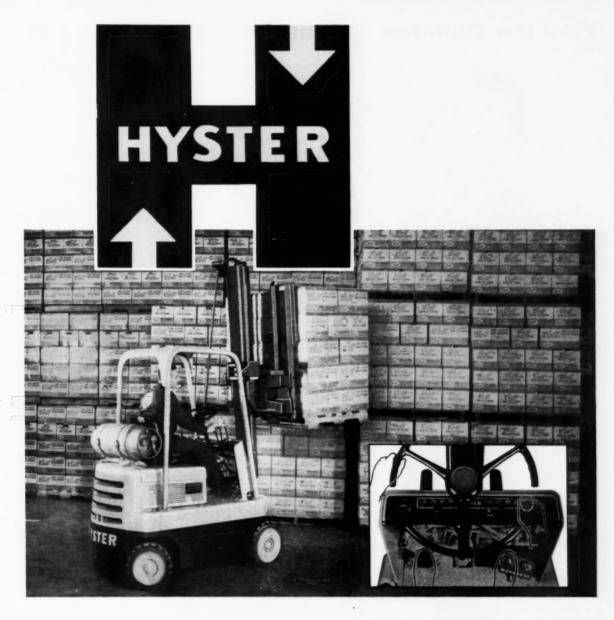
The Branch Motor Express Co. has now completed the development of an entirely new type of driver's daily log which is expected to have many efficiency advantages over the methods now in use throughout the industry. The ICC has granted them a two year experimental period.

Some thirty representatives from transportation industries, government, trade associations, and the University of Maryland held their second organizational luncheon meeting to form a new transportation organization to be known as the Maryland University Transportation Association.

North American Car Corp. delivered 140 40-ft double-deck railway livestock cars to the Burlington Railroad. The cars have been leased to the Burlington for a period of five years to enlarge the railroad's fleet of equipment available to shippers of hogs and sheep.

Pullman-Standard and Trailmobile, Inc., has put in operation the first automatic lifting device for the sideloading of truck trailers and containers in piggy-back operations on the railroads.

(Please Turn to Page 35)



Monotrol for fast, safe handling – Only HYSTER® has it!

New Hyster cushion tire lift trucks with Monotrol control system—unbeatable for warehouse handling.

Right foot controls power—shifting. Left foot controls truck inching—braking. Driver's hands free for steering and load control.

Functional design—shortest turning radius—power steering. Easiest truck to service and maintain.

Call your Hyster dealer, or write for literature.

INDUSTRIAL TRUCK DIVISION — Lift trucks, mobile cranes, straddle carriers
TRACTOR EQUIPMENT DIVISION — Construction and logging equipment
MARTIN TRAILER DIVISION — Heavy machinery hauling trailers
INTERNATIONAL DIVISION — Overseas manufacturing, sales and service
Factories: Portland, Oregon (Hame Office) • Danville, Ill. • Peoria, Ill. • Kewanee, Ill. •
Nijmegen, The Netherlands • Glasgow, Scotland • Saa Paulo, Brazil • Sydney, Australia (Licensee)



HYSTER COMPANY
INDUSTRIAL TRUCK DIVISION
P. O. Box 847 Danville, Illinois

Visit the Pullman Exhibit on Tracks 7 and 8 at the

Railway Electrical and Mechanical Supply Association Show San Francisco, June 13-14-15-16

Ask the Man in the Red Coat about

PULLMAN EQUIPMENT FOR COORDINATED TRANSPORTATION

See TODAY'S NEW DIMENSION in the fields of Piggyback and Containerization



from

PULLMAN-STANDARD
Advanced Railroad Rolling Stock for
Piggyback and Containerization



from

TRAILMOBILE INC.
Customer Individualized Design (CID)
Trailers and Containers



from

TRANSPORT LEASING COMPANY Convenient Service Leasing Arrangements for Pullman Equipment

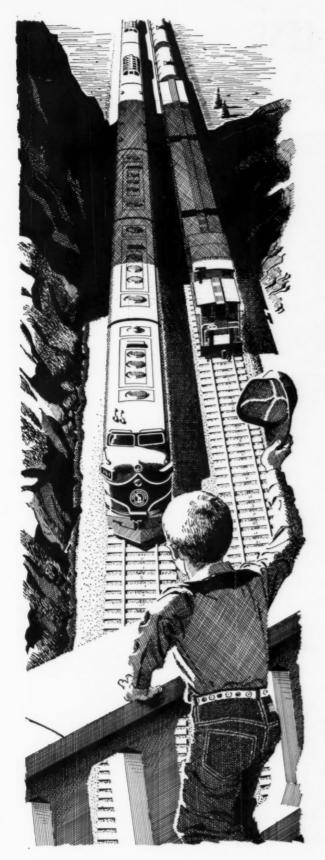


Cincinnati 9, Ohio

PULLMAN-STANDARD . TRANSPORT LEASING COMPANY

200 S. Michigan Ave., Chicago 4, Illinois

Circle No. 8 on Card, Facing Page 82, for more information



Great Northern's "best foot forward"...

the incomparable Empire Builder

Chances are your own company has as a "leader" a single product or service that best advertises your *total* line. In our own case, as a railway carrying hundreds of thousands of passengers and millions of tons of freight, our "showcase" is an incomparable train, the Empire Builder.

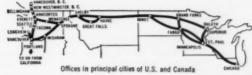
This sleek streamliner—between Chicago and Seattle, Portland—is the natural choice of business executives who are rediscovering a happy fact of travel: frequently, it pays not to hurry. It is the choice of pleasure travelers who would rather someone else "take the wheel" while they enjoy carefree hours of fun, rest and relaxation. It is the choice of vacationers—bound for the nation's most thrilling scenery.

But most important, Great Northern's Empire Builder is a magnificent example of how a modern, service-minded railway attends the needs of communities on its line. For the "spit and polish" needed to maintain this luxury train carries over into Great Northern freight services. Thus, with utmost efficiency and dependability, we are able to transport ores, grains and lumber from the northern tier of states—and return to this region the manufactured goods of other areas.

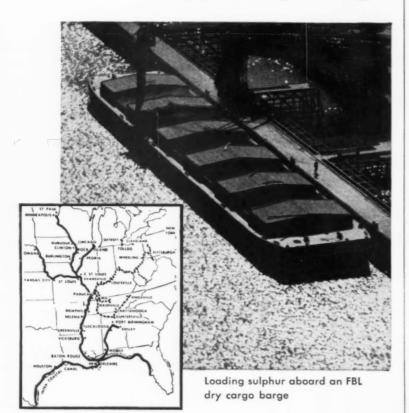
Whether you are traveling or shipping, learn what makes Great Northern great. Your local ticket or freight agent will be glad to help.



Direct passenger travel inquiries to:
P. G. Holmes, Passenger Traffic Manager;
freight inquiries to G. D. Johnson,
General Freight Traffic Manager,
Great Northern Railway,
St. Paul I, Minnesota



DRY CARGO COST LESS Shipped by Barge



Shippers of dry cargo such as grain and chemicals find that FBL's bargeload rates mean substantial savings for them. Whether you ship Bargeload or LBL (Less than Bargeload) it will be to your advantage to check with FBL before your next shipment. Your nearest FBL representative will help you save transportation costs.



FEDERAL BARGE LINES, Inc. 611 EAST MARCEAU . ST. LOUIS 11, MO.

VErnon 2-4000 New York, N. Y. LAkawanna 4-0063

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Chicago, III. WEbster 9-5331 Memphis, Tenn. JAckson 7-6486

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FEderal 3-8343 Omaha, Nebraska JAckson 3222

TWX SL542

JAckson 5-1121 GULF CANAL LINES, 3901 Avenue V, Houston, Texas WAlnut 3-9451 **TWX HO213**

Coming Events

June 6-8—The Material Handling Institute's New England Show, Commonwealth Armory, Boston.

June 8-National Motor Freight Traffic Assn., Inc., Washington, D. C.

12-25—Seventh Annual Handling & Packaging Training Course of The Industrial Management Center, Lake Placid Club, N. Y.

June 13-16—Railway Electrical & Mechan-ical Supply Assn. Show., San Francisco, Calif.

June 19-July 16-The 1960 Transportation Management P.ogram, Stanford University's Graduate School of Business, Stanford, Calif.

June 26-28-National Wooden Pallet Mfrs Assn., 14th Annual Meeting, Chatham Bars Inn., Chatham, Mass.

July 19-21—Western Packaging & Materials Handling Exposition, Pan Pacific Auditorium, Los Angeles, Calif.

Oct. 2-5—National Defense Transportation Assn., National Convention, Roosevelt Hotel, New Orleans, La.

Oct. 7-9-Delta Nu Alpha Transportation Fraternity, 20th Annual National Meeting, Hotel Roanoke, Roanoke, Va.

Oct. 12-27-10th Pan American Railway Congress, Rio de Janeiro, Sao Paulo, Brasilia, Brazil.

Shippers Advisory Boards

June 8-9-Southeast, Memphis, Tenn. June 9-Allegheny, Beall:ville, Pa. June 9-10 - Trans-Mo-Kansas, Wichita, Kan.

June 21-22—Great Lakes, Buffalo, N. Y. June 23-24 — Pacific Northwest, Seattle,

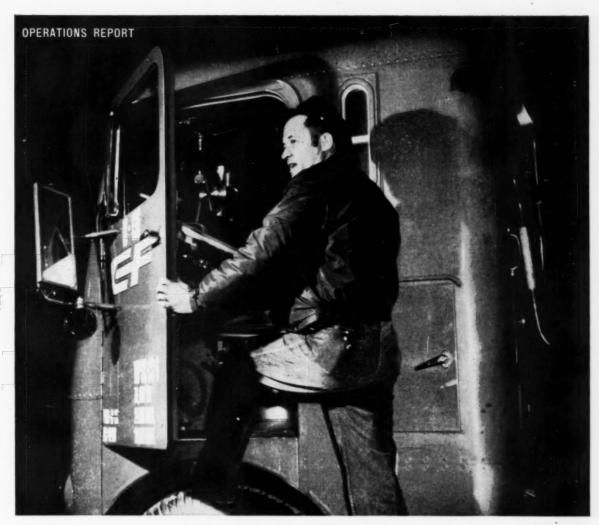
June 29-30—Northwest, Duluth, Minn. July 13-14—Mid-West, Milwaukee, Wis. Sept. 15-16-New England, Pike, N. H.

All-Weather Package





Corrugated aluminum roofing sheets can be stored outdoors in all weather with this new package. The sheets are first wrapped in a waterproof envelope which is crated and steel-strapped to a skid. Medium-gage polyethylene and laminated paper make up the envelope. It is slipped over the roofing sheets. Boards around the bundle give extra protection. Kaiser Aluminum and Chemical Corp. developed the package



This is no milk run . . .

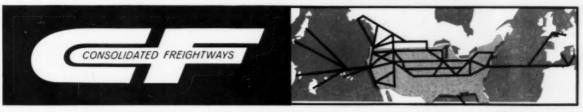
When Daysaver drivers swing into their cab, the next freight-handling stop is the end of the line. Daysaver is Consolidated Freightways' through motor freight service, planned especially to cut handling and transit times on LTL shipments.

There's a Daysaver schedule, for example—exclusive with CF—between Milwaukee and Spokane. Freight for Spokane and nearby communities is loaded in Milwaukee and moves directly to Spokane for distribution.

No intermediate stops. No re-handling. And this is only one of many regular Daysaver schedules operating between key points in the CF system.

Short haul or long, LTL or truckload, perishables, general or bulk commodities — Consolidated Freightways has a service designed to fit your needs. Get the facts from your local CF system terminal or contact the Consolidated Freightways Information Center, Dept. 3A, Box 32, Chicago 50, Ill. Phone AUstin 7-7003.

CONSOLIDATED FREIGHTWAYS



TRANSPORTATION WITH IMAGINATION







Electronic inspection guards your freight

when you SHIP IT ON THE FRISCO



HOT BOX DETECTORS

HELP INSURE PERFECT ARRIVAL...ELIMINATE COSTLY DELAYS

FRISCO'S Electronic Hot Box Detector safeguards your shipment enroute...helps give your shipment perfect arrival—right on schedule!

As thousands of wheels on a long freight train roll past it (at speeds up to a mile-a-minute), the detector scans each wheel journal box and "notifies" inspectors of potential trouble. Skilled FRISCO maintenance crews translate this information into corrective and preventative action that keeps your shipment *on the move*...gets IT there on schedule!

This is just one of FRISCO'S electronic miracles working for you and your shipment as part of more than a \$200,000,000.00 Perfect Shipping Construction Program.—For that next shipment going Southeast or Southwest, Ship IT fast . . . ship IT sure . . . get IT THERE in perfect condition . . . SHIP IT ON THE FRISCO!



5,000 MILES SERVING:

MISSOURI · KANSAS · ARKANSAS · OKLAHOMA · TEXAS · TENNESSEE · MISSISSIPPI · ALABAMA · FLORIDA

In-the-Floor Plan

for low-cost warehousing and freight handling



LINK-BELT Trukveyor cuts handling costs and time ... saves floor space

Fast, orderly warehousing and freight handling come easy with Link-Belt in-the-floor Trukveyors. They speed receiving, storing, sorting, shipping . . end congestion . . . reduce physical effort. These versatile units accommodate changes in floor elevation, execute horizontal turns, permit easy disengagement of trucks at any point.

COLOR-SOUND FILM, "Pathway to Profits," shows Trukveyor in action. For film and Trukveyor Book 2497, write Link-Belt Executive Offices. Ask too, about the new, unique Trukveyor features that facilitate cleaning, lubrication and other routine maintenance.



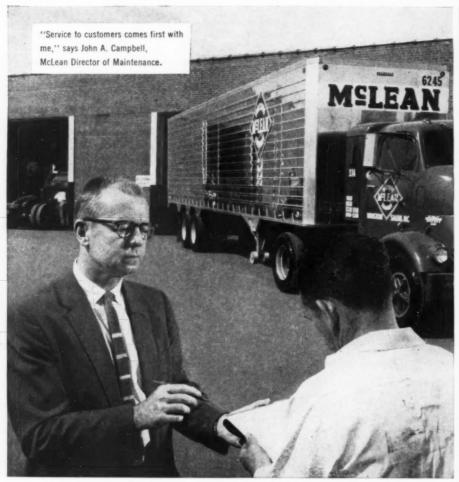
BALL BEARING WHEELS deliver smooth, long-life performance . . . are triple-sealed and have protected grease fitting.

MALLEABLE IRON FRAME of towing attachment takes shock load of platform truck towing pin engagement.

COUNTERWEIGHTED PAWL securely "traps" tow pin . . . prevents accidental release, yet allows easy when desired. disengagement

ENDLESS POWERED STRAND of Link-Belt drop forged Rivet-less chain has endurance needed for rugged conveying duty.

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants and Sales Offices in All Principal Cities Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World Circle No. 9 on Card, Facing Page 82, for more information

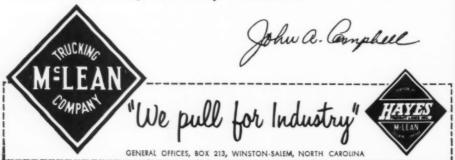


"Preventive maintenance keeps your shipments moving in McLean and Hayes modern equipment!"

Over 2,000 units of modern mobile equipment...tractors, trailers and pick-up trucks...serve the Eastern Seaboard, the Central States and the Midwest in the McLean and Hayes areas of operation. This fleet is kept in peak operating condition through a rigid preventive maintenance program. Each unit is periodically checked and thoroughly tested for safety and roadability. Skilled mechanics and craftsmen in our shops see that every

unit is always ready for the road.

When you route via McLean or Hayes, you specify a motor carrier with your interests at heart...and with rolling stock in top shape to serve you best. For a dependable carrier, call your nearby terminal today! If I can be of service to you at any time, just write to me at the McLean general offices in Winston-Salem.





Handy Wall Chart

Shows points served to and from your nearby terminal. Folds to 8½" x 11", and is punched for 3-ring binder. For your copy, just write McLean Trucking Company, Dept. E, Box 213, Winston-Salem, N.C.

McLEAN TERMINAL CITIES

Akron Ohio*

Albany, N.Y Anderson, S.C. Asheville, N.C. Atlanta, Ga. Augusta, Ga. Baltimore, Md.** Boston, Mass. Bridgeport, Conn. Brooklyn, N.Y. Burlington, N.C. Charleston, S.C. Charleston, W.Va. Charlotte, N.C. Chicago, III.** Cincinnati Ohio* Cleveland, Ohios Columbia, S.C. Danville, Va. Detroit, Mich.* Durham, N.C. Fayetteville, N.C. Greensboro, N.C. Greenville, S.C. Hartford, Conn. Hartsville, S.C. Hawthorne, N.J. Hickory, N.C. Huntington, W.Va. Indianapolis, Ind Jersey City, N.J. Kinston, N.C. Lexington, Ky.** Louisville, Ky.** Lynchburg, Va. Memphis, Tenn. Nashville, Tenn. New Brunswick, N.J. Newburgh, N.Y. New York (Manhattan), N.Y. Norwich, Conn Paducah, Ky.* Peoria, III. Philadelphia, Pa. Pittsburgh, Pa. Providence, R.I. Richmond, Va.** Roanoke, Va. Rocky Mount, N.C. St. Louis, Mo. Savannah, Ga. Shelby, N.C. Spartanburg, S.C. Springfield, III.* Springfield, Mass. Toledo, Ohio* Washington, D.C.** Waukegan, III.* Wilmington, N.C. Winchester, Va.* Winston-Salem, N.C. Worcester, Mass. *Hayes Division Terminal

*Hayes Division Terminal

**Joint McLean-Hayes Division
Terminal



"KNOW-HOW" service call your nearby terminal today!

for

Tractors Arrive in Mint Condition



Tractors are being received by Ford dealers in mint condition due to fitted covers. Covered tractors arrive at dealers without dirt smudges, chipped paint, or surface scratches. The covers are of reinforced waterproof paper. One side of the paper is treated to eliminate friction and abrasive damage. Cromwell Paper Co. manufactures the package

Chuting the News . . .

(Continued from Page 26)

Turbine in Truck

A regenerative gas turbine engine is being used to haul ore by the International Nickel Co. of Canada, Ltd., in the Sudbury District of Ontario. The 225 hp engine was manufactured by the Allison Division of General Motors Corp. International Nickel is handling the field tests for the new engine to gage potential of the gas turbine for commercial use.

The National Wooden Pallet Manufacturers Association has issued new specifications and grades for hardwood warehouse, permanent, or returnable pallets. Four grades are included. For a copy send 50 cents to the National Wooden Pallet Manufacturers Association, 609 Barr Building, Washington 6, D. C. Many pallet suppliers have copies on hand.

News Briefs

Sensitive liquid chemicals will be carried by two large aluminum barges planned by Reynolds Metals Co. and National Marine Service of New York. First barge will travel the Mississipi-Ohio River systems for shipments to Midwest cities.

The cost of nuclear propulsion power for ocean vessels is approaching that of conventional vessel propulsion, the Senate Interstate and Foreign Commerce Committee learned recently. The Atomic Energy Commission feels that nuclear power is a good bet for fast ships operating on long trade routes.

A fleet of "flying freighters" is being put into service by Eastern Air Lines in an attempt to offer regularly scheduled daily non-stop service exclusively for cargo. First flight is planned between metropolitan New York and South Atlanta, Ga. Reservation service similar to that used with passengers will be used.

The Greyhound Corp. has expanded its package express service to include Eastern Canada. Expedited customs clearance at five border gateways and cooperation with Canadian bus lines have brought better service.

The AASHO Road Test near Ottawa, Ill., is set to conclude July 1, except for tests of military equipment with extra-heavy axle loads. Trucks, 78 of them, have been traveling the test span 18½ hours a day on a six-day basis.

Plans to merge the Minneapolis, St. Paul and Sault Ste. Marie, the Wisconsin Central, and the Duluth, South Shore and Atlantic Railroads was approved by the directors of the three companies. Next to vote: stockholders. Then the ICC.

Five additional DC-7 passenger airplanes will be converted to all-cargo configuration by American Airlines. The conversion will bring a new fleet total of 15 by the end of 1960.

Throws Grain with Long Arm



All types of granular and small lump bulk materials can be removed from storage when this bulk commodity loader is mounted on the discharge end of a storage conveyor. It can throw material in any direction over an arc of 270 deg. Such a feature climinates frequent shifts of the storage conveyor system which saves time and equipment. Stephens-Adamson Mfg. Co. manufactures the loader

Tandem Trailer Conference

More uniform tandem regulations and reciprocity among the turnpikes was requested by the representatives of turnpikes who met in New York recently as guests of the New York State Thruway. The meeting was called to review driver qualifications and pieces of equipment, also. It was pointed out that individual qualifications in all areas by each turnpike would be a burden on carriers and perhaps prohibitive for them. Indiana, Massachusetts, Ohio, and Kansas were the states represented.

The Traffic Institute of Northwestern University will holds its 16th Annual Motor Fleet Supervisors Course, June 6-10.

Mercury Teams with Sofia Bros.

The New York message and package delivery service of Mercury Service Systems is offering its customers facilities to move entire offices. Through affiliation with Sofia Brothers, Inc., Mercury clients can be moved without handling their own planning, packing, or transportation.

Resume Reading on Page 30

BRAND

Quality steel, cold formed and finished in green metallic based paint. Other colors available upon request.

...with exclusive safety load

The makers of AIM Brand Slotted Angle extend their line to solve every problem of materials storage. Now, after four years of testing, improving, perfecting-Acme Steel Company announces a major improvement in heavy-duty rack design.

The only rack with a safety load locking device.*

Provides positive protection against accidental disengagement of the beams. The safety load lock is an integral part of the beam, not a loose part that must be inserted. Locks and unlocks with one hand in a second -yet its ingenious design keeps the beam anchored even under toughest jolts.

There's much more to the revolutionary AIM Brand



locking device* refuses to be pulled, bulled or jarred apart!

Rack story—including special engineering service and industry's broadest materials storage experience. AIM Brand is distributed nationally. For the name of your nearest distributor and detailed literature, call or write your nearest ACME STEEL office or ACME STEEL COMPANY, Fabricated Materials Division, Dept. MDD-60, 135th Street & Perry Avenue, Chicago 27, Ill. MEETS A. I. S. I. STANDARDS

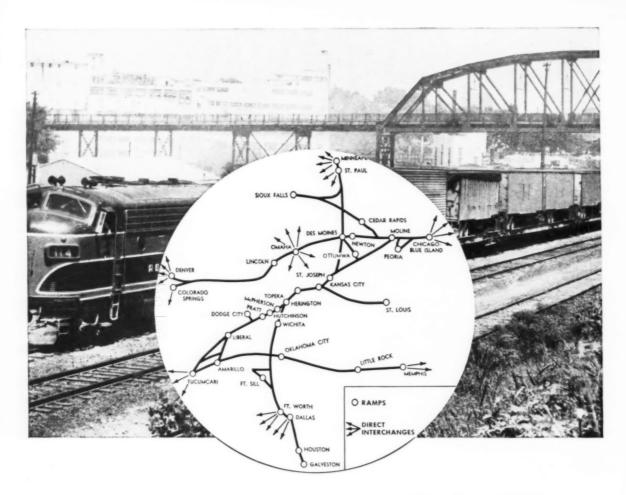




NO LOOSE PARTS! No special tools, no loose parts—frames are prefabricated. Eccentric button head studs for fastest set-up and disassembly. Pre-punched foot plates face forward for ready accessibility and simplify lagging to floor. There's even a "built-in rule" the entire height of the frame to easily guide beams for level placement. Beams can be adjusted on 2 inch centers over the entire frame height.

SETS A NEW HIGH IN STRENGTH! Each AIM Brand beam connection has three load bearing points—two button head studs plus the exclusive load lock. AIM Brand columns are a full 3 inches square, instead of the conventional 3" x 1½" size. These features greatly increase safe load capacity.

SECOND TO NONE IN STABILITY! Toughest fork lift truck jolts can't jar beams off columns. The safety load lock and button head studs team up with advanced welding techniques to provide a rack that withstands repeated abuse. Each beam even has a ledge on which to place accessories or wood shelving.



Strategically located piggyback ramps ...another good reason for shipping Rock Island

The optimum piggyback service combines the efficiency of long hauls by rail, the economy of short hauls by truck. What makes this ideal combination possible is the existence of piggyback facilities in numerous key areas.

The Rock Island map above shows how piggyback ramps blanket the system—and how, if the destination of your shipment is outside Rock Island territory, you can reach into every corner of the nation through Rock Island's direct interchanges with other railroads.

So capitalize on this complete transportation service. Next time you ship piggyback, ship via the Rock Island railroad. Get the benefit of strategically located ramps and direct interchange points... plus equipment engineered to meet your requirements...plus the services of experienced, conscientious personnel...plus a shipping plan that best fits your needs.

Your Rock Island traffic representative will be glad to help you put this effective combination to work. Why don't you get in touch with him today?



ROCK ISLAND LINES

The railroad of planned progress...
geared to the nation's future
CHICAGO 5



JUNE 1960 . . VOL. 59, No. 6

Freight rates and the Weeks and the Mueller Reports

This writer compares, analyzes, and appraises standards set forth in reports on minimum, maximum, and actual rates

THE TOPIC of pricing has received more attention and stimulated more discussions in the field of transportation than any other area of enterprise.

It has stimulated theoretical and applied economists for generations. And the Weeks Report, which appeared in 1955, heralded increased contributions to the literature on freight rates.

The economists have been stimulated principally by intensification of competition among the various forms of transport, particularly between rail and motor carriers, and by cognate problems associated with the relative decline in rail traffic. The recent Report of the Department of Commerce in March of this year is the latest significant excursion into the field.

Opinion on ICC Control

On regulatory policy, opinion is virtually unanimous that control of rates by the Interstate Commerce Commission should be relaxed. Both reports agree in this respect, as do nearly all commentaries, except those coming from the Commission. They favor restriction of the Commission's authority to prescribe minimum rates and a ceiling on maximum rates. Between these nether and upper limits the carriers would fix actual rates subject only to the prohibition of unlawful discrimination.

It is the purpose of this paper to compare, analyze, and appraise from the viewpoint of economic principle the standards set forth in the reports for minimum rates and the principles they suggest for the determination of actual rates.

In general, the reports contemplate two situations in which the reasonableness of maximum rates may be in issue. One is where the rates apply to competitive traffic. The second is where they apply to non-competitive traffic.

Both reports emphasize the pervasiveness of rail and truck competition, including competition with privately operated trucks, and they depend upon this competition, where it exists, to keep maximum rates at a reasonable level without Commission intervention. Thus the Weeks Report stresses "reliance on competitive forces in rate-making"; and the Department states its problem as a search for a "program of rate controls that will produce a maximum of free market competitive pricing but retain the protection required by the public."

What is likely to determine the level above which rates established by competitive pricing will not rise? It is often said that competitive pricing is governed by "cost." Thus the Weeks Report declares that "rates must be allowed to reflect cost advantages whenever they exist and to the full extent."

And the Department states "... in the long run, rates should come to be based primarily on cost." But what cost? Whose cost?

It is obvious that in a competitive situation only marginal cost is relevant for price determination. Marginal cost represents the additional cost of an additional unit of service. It is the variable cost that is incurred in producing the additional service and is not incurred if the service is not produced. When plant is under-utilized, marginal cost does not include any of the fixed charges associated with the investment.

Economists designate this cost as short-run marginal cost. On the other hand, when the plant is increased in order to perform the additional service, the cost of the increase in plant capacity is included in marginal cost. Economists refer to this as long-run marginal cost. Competitive pricing is governed by short-run or long-run marginal cost depending upon wether plant capacity is under-utilized or fully utilized when the additional unit of service is produced.

The next question is "whose marginal cost governs a maximum rate established by competitive pricing?" Assume two carriers—one rail, the other truck; that is the situation to which the rate recommendations

(Please Turn to Page 75)

Conveyors lead way for switch in plant's flow pattern

An evaluation of its warehouse flow pattern pointed the way for this company's change from fork trucks to conveyors to satisfy increasing customer demands.

NE OF THE country's leading producers of cathode ray and power tubes recently redesigned its warehouse flow pattern using conveyors to meet increasing market demands.

The Electronic Tube Division of Westinghouse Electric Corp., Elmira, N. Y., was planned originally for the manufacture of cathode ray tubes on one side and power tubes on the opposite side. At plant center were receiving, shipping, finished tube warehouse, stores, and maintenance facilities.

Receiving and shipping were at the west end, separated by truck docks and a double-track railroad dock which extended over 200 ft into the center of the plant.

The two production lines progressed eastward. Receiving was close to the start of the cathode ray tube line because bulbs for television tubes are bulky and are received, in most cases, palletized with ten bulbs per carton, three cartons high. But power tube supplies are small and do not present the same problems. They are usually placed within the stores department and are withdrawn as required, unlike the cathode ray bulb stores which are turned over very rapidly.

Original receiving and shipping facilities were designed for the greater number to be handled by rail. The Northern spur of the railroad was intended for shipping purposes and the Southern spur was designated for receiving.

At first, it would seem that although cathode ray starting operations were close to the bulb source, the tubes would require long hauls to shipping. The same applied to power tubes, although such was not necessarily the case. Tubes are "held" in lots for definite periods after manufacturing. Samples of tube lots are retested prior to placing in the warehouse for shipping. Because cathode ray tubes occupy so much space when held for the required three days, the hold area adjoins the warehousing area.

Raw Bulb Storage

Higher production made storage of raw bulbs a greater problem. Ever-increasing floor space was devoted to the "hold" areas and greater warehousing became necessary because tubes were wanted immediately. This included an increasing variety of types—cathode ray tubes with electrostatic and magnetic guns, spherical and cylindrical faceplates, and deflections, 14, 17, 21, 24-in. sizes, aluminized and non-aluminized. The combinations were limitless. In spite of efforts to store by elevation, space soon ran out.

A 30,000-sq ft addition built on the west end of the plant, brought temporary relief. Its 140-ft westto-east depth pulled the railroad and truck docks back westward. No improvement in handling methods occurred during this period because pressure was eased for a while. Distances of hauls were increased along with power tube production. In addition, receiving tubes were warehoused at Elmira to better serve the purchaser. This move necessitated a section for branding and testing before shipment.

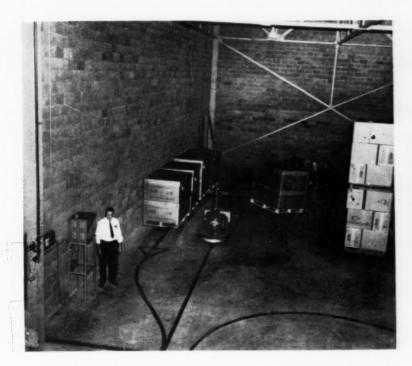
Manufacture of camera tubes took the space formerly occupied by service departments. A large expansion in black and white picture tube production with its later additions of equipment put a further squeeze on the center of the plant. Again, more building was necessitated.

A 120,000-sq ft warehouse was built in 1957. But this time there was a determination for improvement. In the past, fork and hand truck travel was used over long distances. Conveyors, or other unattended devices would now be used.

Goods received had become almost entirely a tractor-trailer method. The railroad should have been confined to shipping since 80 per cent of cathode ray shipments are by rail, it was decided.

Since flow of materials, due to rapid growth, had become less efficient, flow was to be given every consideration.

Past difficulties were reviewed. Future long-range requirements were determined. Experience had shown how high stacking could be accomplished. Thus, volume of product per square foot of floor space, or shelf space could be figured. Sales forecasts provided information on quantities of the products which should be stored. Experience also gave information on storage demands before and





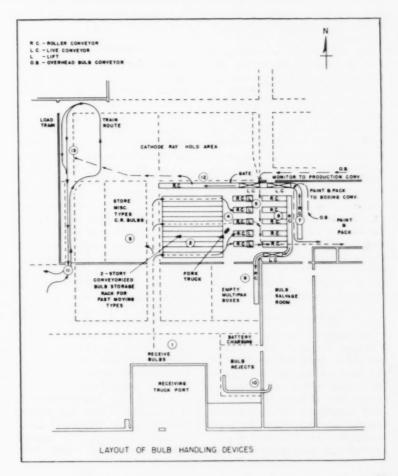
Switch imbedded in floor governs which track is energized for train movements

Finished tubes from hold area are put onto train for trip to the warehouse

during production periods. The relation of one work center to another was studied. The factors which told us whether A or B should be located next to C were weighed, and plans were laid out and evaluated — some discarded, others amended.

Finally a warehouse shape, size, and location was arrived at. Cathode ray bulbs are bulky. They are received entirely by tractor trailer. Therefore, the truck receiving dock is close to the first operations in cathode ray processing. It is also (Please Turn to Page 81)

Bulbs are unloaded from trucks at 1 by fork truck and transported to bulb rack 2 or to miscellaneous bulb storage at 3. At 4, a fork truck removes pallets from aisles, 24, in the rack to roller conveyors that lead to lifts 1. At 5, bulbs are removed from boxes, placed on overhead cable conveyor for moves to production. As boxes are un-loaded at 5 they are thrown onto roller conveyors which move them to tubepacking at 7. Once there, skids and boxes are placed on a conveyor at which point finished tubes, coming from paint and pack on an overhead cable conveyor are loaded into boxes. Pallet packs of finished tubes move Northward and then Westward where live conveyors move them to a point at 12. Hold area is at 8



M H progress through obsolescence

A frank discussion of container changes, bigger unit loads, new building forms, benefits of obsolescence make up this writer's appraisal of materials handling

T IS INSTRUCTIVE to realize how few mistakes developed from the pioneer entries into materials handling. Through such primary efforts, new techniques and methodical procedures evolved until a somewhat standardized materials handling survey began to take shape.

The approach to a problem at first included a breakdown into definite categories. They were objectives of the project, product or products involved, quantities to be handled, routes and distances to be covered, and the physical and environmental conditions of the work area.

One might think that such survey techniques are passe. Far from it. They are being utilized more and more by materials handling men. But a new element is becoming increasingly important in such studies. You may wonder why thoughtful investigators must dig deeper today than in the past to arrive at answers which have a chance of continuing value.

Effects Affect

We can no longer be satisfied with decisions made about methods and equipment formulated on the basis of current conditions. Developments are taking place in every phase of industry which almost invariably affect handling and storage techniques. An alert investigator cannot afford to play ostrich, but must stick his neck

out by recommending methods based on what he anticipates the future holds.

But is this mere crystal ball gazing? Surely there must be trends which portend what we can expect. Also there must be a few ways to hedge obsolescence.

Container Changes

Normally, we think in terms of containers and only in exceptional cases are we concerned with their contents. A single example points to the necessity for keeping in touch with product developments in any field. Consider the case of oranges.

The introduction of frozen orange juice concentrate had marked effects on the cold storage industry. It has been estimated that slightly more than 17 carloads of fresh fruit are required to make up a single carload of concentrate, and since the fresh product is stored in coolers, the processed commodity calls for freezer space. The trend to frozen foods has had even more farreaching effects on public warehousing. Cold storage plants now have become distribution centers, fully equipped with break-up rooms where orders are assembled for local distributors. And now, with the improvements in delivery means from the growing districts, fresh fruit concentrate is made possible. It's another change in product which introduces an entirely different kind of container.

Of course, few industries have experienced such radical upheavals, but packaging, traffic, and materials handling men in every field are working together to develop containers more suitable to present-day handling needs.

A world-wide oil producing company has set up a special department to devise better crating methods for overseas shipments so that in ports where cargoes are handled by ship's gear onto lighters, the units can be picked up and brought ashore by means of fork trucks instead of having to depend upon the relatively slow operations involved when cranes are used.

Bigger Unit Loads

Another trend has been toward the extension of the unit load principle. First came the palletized load, followed shortly by the wire mesh container which made possible the shipping of many small items as a unit.

Next came the king-size container—veritable vaults for handling a wide variety of products with the double advantage of protection against both damage and pilfering. It was not long before entire truck loads were made of these large units. This step led logically to the piggy-, fishy-, and birdy-backs which are still in the development stage.

Cooperative efforts between men in industry and those in transportation are bringing about significant changes in carriers. Some authorities are partial to compartmentizing; others feel that the solution to wrestling loads into freight cars through a central door lies in the unit load, multiple-door variety which is being offered.

But rolling stock is not the only equipment that is being revamped. Individual concerns have worked out various kinds of conveyors for handling palletized loads in trucks and on trailers. Now a commercial

(Please Turn to Page 83)

State Regulation of Industrial Truck Operation

ARKANNAS Dept. of Industrial Safety OLIDRAD OLIDRAD Safety Inspection Div. ONNECTICUT Labor Dept., Div. of Factory Inspection DELAMARE FLORIDA Dept. of Industrial Safety, Industrial Commission ORDEDIA Dept. of Labor, Inspection Div.	DEPARTMENT OR DIVISION LABRANA Dapt. of Public Relations, Div. of Safety
Dept. of Industrial Safety Day. of Industrial Safety Safety Inspection Div. Labor Dept., Div. of Factory Inspection MONE Dept. of Industrial Safety, Industrial Commission Dept. of Labor, Inspection Div. Labor Industrial Relations, Div. of Industrial Safety Dept. of Labor Dept. of Labor, Factory Inspection Div. Bureau of Factory & Building Inspection Div. Survey of Labor Pattery Inspection Div.	OR DIVISION SPECIFIC RILES & REGULATIONS ** of Safety & Inspection
* ASA, B56,1 = 1959	STANDARD CODES ADDFTED ASA, B56.1 - 1959
See General Industry Safety Order. Unfired Pressure Vessel Safety Order See also Accident Prevention Manual for Industrial Operation Code under study. Balletine guide factory inspectors. No rules or regulations issued. Code being developed See General Safety Code. Partly regulated by State Code #1. No specific rules or regulations. Applicable codes & standards of the industry. No code adopted.	EDMARES Com Mineter Consent Safety Code. Also Savetil & Loging Code.

* ASA Standard Applies in Absence of Specific Code.

ASA, B56.1 - 1959 - This code, copies of which may be purchased from the American Society of Machanical Engineers, New York, covers construction, operator instruction, and maintenance.

DA drops in on the SHOWS

Here are some of the top products to be displayed when the Material Handling Institute opens its regional show in Boston or when the Western Packaging and Handling Show opens in July

WESTERN

Time-July 19-21

Place-

Pan Pacific Auditorium, Los Angeles, Calif.

Advance registration—

Clapp & Poliak, 759 Monadnock Bldg., San Francisco 5.

Measures Gummed Tape



Table-model electric gummed tape machine by Better Packages, Inc., measures, moistens, and cuts tape Circle 80 on Card, Facing Page 82

Durothane Wheels



Durothane pallet, caster, and lift truck wheels will be on display at the Divine Brothers Co. booth in the MHI's regional show at Boston Circle 83 on Card, Facing Page 82

Seven types of light-weight dockboards are produced by F. H. Langsenkamp Co. Made of aluminum alloy, they feature a skid-proof surface that gives protection even when wet

Light-Weight Dockboards

Circle 84 on Card, Facing Page 82

Modern Bag Packager



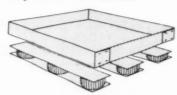
Errich International Corp. will show its bag packager, which cuts packaging labor costs up to 80%. at the LA show

Circle 78 on Card, Facing Page 82

Fills Glass, Plastic

Filling machines for glass, plastic, tin, and paper containers will be featured by the Arthur Colton Co. Circle 79 on Card, Facing Page 82

Expendable Pallet Line



Signode Steel Strapping Co. will show samples of its expendable pallet series for use with forks Circle 81 on Card, Facing Page 82

Feeder for 100-lb Bags

Bemis Brothers Bag Co. will introduce the Auto-Mac, a new multi-wall-bag feeder for filling bags in the 100-lb size range. It can be linked with scales, conveyors, and

Circle 82 on Card, Facing Page 82

Package Bander



Schooler Manufacturing Co. will show an automatic machine for banding one or more rectangular packages

Circle 85 on Card, Facing Page 82

Vibrator for Bulk



A new locking wedge mounting device is featured on the new vibrator to be featured by Martin Engineering

Circle 86 on Card, Facing Page 82

Fork-Trucks Attachments

At Cascade Manufacturing Company's booth in Boston, engineering specialists on fork-truck attachment design will be on hand to help find solutions to handling problems. The exhibit will feature an attachment for palletless handling. This device permits sheet handling of unitized loads. Other attachments will be paper-roll clamps, rotating aprons with forks, side-shifting carriages, and hydraulic load handling clamps

Circle 87 on Card, Facing Page 82

New Lift-Truck Line



Crown Controls Co., Inc., plans to unveil its new line of powered lift trucks, a group of 19 models Circle 88 on Card, Facing Page 82

If you can't make the shows, use DA's Reader Service Card facing Page 82 for additional information on the displays.

Walkie-Type Truck



Among the trucks featured by Lewis-Shepard will be a new walkie with dynamic braking, controlled plugging

Circle 89 on Card, Facing Page 82

Protective Packaging

A new inner packing by Spaulding Fibre Co., Inc., consists of sheets with large V-shaped corrugations. It is non-abrasive, light and will not fray. Each V protects a part from contact with the others Circle 90 on Card, Facing Page 82

Tow-Cart Switches



Automatic, mechanically controlled switching of tow carts will be the feature of the SI Handling exhibit Circle 91 on Card, Facing Page 82

New Pallet Racks

At the Boston show, Palmer-Shile Co. will introduce a new pallet rack which can be easily adjusted. Details on this product were not available when DA went to press Circle 92 on Card, Facing Page 82

NEW ENGLAND

Time-June 6-8

Place-

Commonwealth Armory, Boston, Mass.

Educational Program-

Conducted by the American Material Handling Society, Inc.

Stand-Up Fork Truck



In the Yale & Towne booth, one of the trucks will be the K47-20 standup electric-powered fork lift truck Circle 93 on Card, Facing Page 82

Label Printing Machine



A label printing machine which can use movable rubber type will be shown by Weber Marking Systems, Inc.

Circle 94 on Card, Facing Page 82

Safety-Lock on Racks

A new safety load-locking device has been incorporated into the racks made by Acme Steel. Protection is provided against accidental disengaging of the beams caused by jolting

Circle 23 on Card, Facing Page 82 (Please Turn Page)

DA drops in on the SHOWS . . .

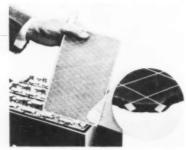
(Continued from Preceding Page)

Remote-Control Lift



An Automatic Transportation Co. stand-up type lift truck will be operated by Otto without the help of guide lines or wires. Through radio control, it lifts and steers Circle 95 on Card, Facing Page 82

New Battery Plate



Gould-National Batteries, Inc., will display its Silconic battery plate which gives top performance at low cost. Inset shows positive grid, coated to cut self discharge

Circle 96 on Card, Facing Page 82

Stevedoring Lift Truck



Baker Industrial Trucks plans to feature a 7000-lb capacity lift truck for stevedoring. A triple-mast lift and LP-gas truck will be on display

Circle 97 on Card, Facing Page 82

New Fuel Cell

Exide will have on display a vehicle powered by its new zinc-oxygen fuel cell, a power source now under study for use on materials handling trucks. For additional data on this development see the New Product on Page 49

Circle 98 on Card, Facing Page 82

Hydraulic-Boom Crane



The Herculift M-10, produced by The Colson Corp., can lift and spot loads up to $2\frac{1}{2}$ tons. Boom raises 9 ft

Circle 99 on Card, Facing Page 82

Three New Lift Trucks

Allis-Chalmers Manufacturing Co. will introduce three new high lifts in the 3000-5000-lb capacity area. Additional information on this line appears on Page 48 of this issue Circle 1 on Card, Facing Page 82

Aluminum Platform Truck



Of particular interest to terminal operators and warehousemen will be Nutting's aluminum platform truck

Circle 100 on Card, Facing Page 82

Fork-Lift Attachment

A new safety-lock fork-lift attachment for moving motors and dies is available from Merrill Brothers. It slips easily onto the forks without the use of wrenches or other tools

Circle 101 on Card, Facing Page 82

Kraft Paper with Stretch

New extensible kraft paper with "twoway stretch" reduces breakage of multiwall bags. This heavy duty package material is illustrated in fact sheets from Hollingsworth and Whitney.

Circle 111 on Card, Facing Page 82

Adhesive Selection

A technical service bulletin from Paisley Products, Inc., explains why surfaces and methods determine which adhesive is best suited to your needs. It covers penetration and film strengths, gives handling hints.

Circle 112 on Card, Facing Page 82

Easy-View Cargo Handlers

No matter what you make, store, or transport, Palletainers by Union Steel Products Co. can provide cost-cutting measures. New book shows types available. Capacities range from 2000 to 6000 lb with eight-way entry.

Circle 113 on Card, Facing Page 82

Marking Equipment

Algene describes its array of marking equipment with everything from ink to applicator in a new brochure. Roller printers work on burlap, waxed surfaces, asbestos, other hard-to-print-on surfaces.

Circle 114 on Card, Facing Page 82

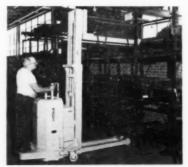
Truck-Loading Lift



Towmotor's new Van-Stack lift trucks are less than 6-ft high and can be negotiated in 3-ft warehouse aisles

Circle 102 on Card, Facing Page 82

Electric Lift Trucks



A new series of rider electric lifts is announced by Barrett-Cravens. They are high-speed trucks on walkie chassis

Circle 103 on Card, Facing Page 82

Literature from the AMA Packaging Show

New literature introduced at the recent American Management Association's Packaging Exposition can aid you with solutions to your packaging problems. For copies, use the Reader Service Card facing page 82.

Portable Bag Closer

Facts on Fischbein's bag closing equipment are presented in catalog form to show you how easily and efficiently the various closing machines operate.

Circle 115 on Card, Facing Page 82

Polyethylene-Coated Kraft

St. Regis Paper Co. has a new process of coating kraft paper with polyethylene for superior moisture barrier protection in multiwall bag production.

Circle 116 on Card, Facing Page 82

Wooden Pallet Life Doubled

Signode Steel Strapping is introducing a wooden pallet strengthened for longer life with strapping run through sawn kerfs in ends of top and bottom deck boards, held by screw nails.

Circle 117 on Card, Facing Page 82

Round Corner Fibre Drums

The new line of round corner, convex sided fibre shipping drums made by Greif Brothers Cooperage Corp. is pictured in a new pamphlet.

Circle 118 on Card, Facing Page 82

Bag Protection Pallet

The bag protection pallet with interfold corner from Southern Products Corp. wraps around a base load of bags to form a sturdy bottom during fork lift travel. New flyer illustrates use.

Circle 119 on Card, Facing Page 82

Veneers for Packaging

A veneer core overlaid with kraft or white facings makes the solid packaging-panels illustrated in literature from Wey-erhaeuser Co's. Silvatek Division. You'l find thicknesses range from ½ to ¼ in.

Circle 120 on Card, Facing Page 82

Barrel and Drum Member Roster

A roster of the National Barrel and Drum Association's members who reconditioned 40 million steel drums in 1959 is available.

Circle 121 on Card, Facing Page 82

Carton Closing by Hand

International staplers are designed especially for carton closing with extra features for sure control, low fatigue, and increased production. Learn how you can benefit.

Circle 122 on Card, Facing Page 82

Which Polyethylene Film?

U. S. Industrial Chemicals Co. has prepared an informative data sheet on polyethylene films and how to pick one with regard to Commercial Standard CS227-59.

Circle 123 on Card, Facing Page 82

Strapping Tape Dispenser

A folder from Permacel shows the many uses of its strapping tapes and dispenser which speed unitizing, palletizing, bundling, sealing—all with one hand.

Circle 124 on Card, Facing Page 82

Padded Shipping Bags

Jiffy tells everything about its padded bags for parcel shipping in a new folder. You'll learn how to make packing easy, reduce packing supplies and time.

Circle 125 on Card, Facing Page 82

New High-Lift Truck

The Elwell-Parker line of electric lift trucks will include a new model built in 3000 and 4000 lb capacities. Other features include fast lifting, maneuverability, easy maintenance

Circle 104 on Card, Facing Page 82

Personnel Carrier

In addition to its industrial trucks, Moto-Truc Co. manufactures a parcel and personnel carrier which operates on electricity. This truck can be operated at speeds up to 10 mph

Circle 105 on Card, Facing Page 82

Three-Stage Uprights



Hyster Co. will introduce lift trucks with three-stage uprights and pneumatic tires in the 6000-8000 class

Circle 106 on Card, Facing Page 82

Side-Shift Attachment

Among the recent innovations from Clark Equipment Co. is a new sideshifter-slope piler attachment. It is designed for fork trucks of the 15,000-20,000 lb class

Circle 107 on Card, Facing Page 82

Truck Dock Protector



A permanently installed truck dock protection that cuts refrigeration loss will be in the Frommelt booth

Circle 108 on Card, Facing Page 82

Light-Weight Pallet Truck

The Raymond Corp. supplements powered equipment with a lightweight pallet truck which low-lifts hydraulically

Circle 11 on Card, Facing Page 82

Manually-Operated Ramp



Globe Lift will show a spring counter-balanced dock leveler, manually operated but having an automatic lip

Circle 109 on Card, Facing Page 82

Display of Casters

A line of specialty casters and military casters will be displayed in the Faultless Caster Corp. booth Circle 110 on Card, Facing Page 82

Rugged Platform Trucks

Capacities as high as 3000 lb are offered in the platform truck line manufactured by the Lansing Co. Special superstructures to meet the individual user's need are available

Circle 13 on Card, Facing Page 82

Elevating Tailgate

At the H. S. Watson booth, elevating tailgates for stake and van bodies will be on display. High capacity per pound of installed weight and single-lever control are advantages

Circle 17 on Card, Facing Page 82



NEW PRODUCTS

... FOR FURTHER INFORMATION

Fork-Lift Trucks

Three new lift trucks in the 3000, 4000, and 5000-lb capacities, powered by gasoline, LP gas, or diesel engines, have been announced by the Engine-Material Handling Div., Allis-Chalmers Mfg. Co. The models are equipped with either standard transmission or, as optional equipment,



power-shift torque converter drive. A safety feature is the emergency brake with two shoes that expand internally to the emergency brake drum for positive holding. This is entirely independent of the standard hydraulic braking system. A 5-in longer wheelbase and trunnion-type steer axle gives the new trucks stability, gradeability and steering ease.

Circle 1 on Card, Facing Page 82

Portable Dictating Machine

A tiny, magnesium light, 2 lb, 8 oz, portable recorder is available from Dictaphone Corp. Fully transistorized and never needing a plug-in, this little mike can be held in your hand or clipped to your lapel. Each convenient magazine holds 60 min of dictation.

Circle 31 on Card, Facing Page 82

Steel Strapped Pallet

The Signode Steel Strapping Co. is offering a wooden warehouse pallet reinforced with a specially made ¾ x .035 in. plastic coated steel strapping which has been treated to bend well and be nailable. The new pallet is available with two and four-way entry.

Circle 32 on Card, Facing Page 82

High-Capacity Trailer

Brown Trailer Div. has introduced a new exterior post aluminum trailer designed to give more room for cargo per pound of trailer weight. A special



design one-piece leak-proof roof, a rugged rear frame and rear doors, new 25-in. wide .063 skin sheets, and a special-design extruded post construction are some of the new fea-

Circle 33 on Card, Facing Page 82

Electric Hand Cart

A new 5-ft long and 2-ft wide electrically driven hand cart has been designed and is offered by New Design and Development Corp. Heavyduty rubber belts 4-in. wide, propelled by a General Electric motor, move the



cart and load over the stairs. The operator only guides and balances the load, reducing physical strain and the danger of merchandise damage. Automatic braking is provided so that with power interrupted, the cart will not move.

Circle 34 on Card, Facing Page 82

Cord Strapping

The Industrial Packaging Department of American Viscose Corp. announces Avistrap, a high-tenacity rayon cord strapping which offers shippers economy, ease of handling, and safety. Since the coils weigh approximately 21 lb, complete with disposable spool, they may be changed in seconds, and there is no unwrapping or complicated changing of reels.



Damage is reduced with regard to shipping cartons. The highly-flexible cord strapping tightens around corners without cutting cartons; when properly tensioned, it cannot harm merchandise, and it will not rust. A company or product name, or both, may be clearly imprinted for quick identification and helps to reduce pilferage by full and clear designation of ownership.

Circle 35 on Card, Facing Page 82

Skid-Proof Coating

A new palletizing non-skid coating for bags, cartons, and containers is announced by Adhesive Products Corp. This highly concentrated liquid coating can be diluted infinitely with water and sprayed directly on the container. When dry it forms a non-skid surface which is waterproof and oilresistant.

Circle 36 on Card, Facing Page 82

and EQUIPMENT

PLEASE USE READERS' SERVICE CARD . . PAGE 82

Stand-Up Fork Lift

A new 2000-lb capacity automatic drive fork-lift truck has been produced by Mobilift Co., Div. of Minneapolis-Moline Co. The automatic drive eliminates gear shift and reduces wear on engine, brakes, and tires as it transmits power for either forward or reverse direction. Speed in materials handling is increased by the stand-up end control design which en-



ables the driver to get on or off the truck quickly. This unit is particularly efficient when working in narrow aisles or inside closed vans. It turns end-for-end without stopping with 360-deg steering and zero inside turning radius. Proper low weight distribution affords continuous traction unloaded or loaded. A three-cylinder air-cooled engine requires no water or anti-freeze, water jackets, pumps, or radiator.

Circle 37 on Card, Facing Page 82

Colored Floor Markers

Self-sticking markers, furnished in four bright fadeproof colors, have been developed for industrial floor use by W. H. Brady Co. Made of .005 in. thick vinyl, they will withstand truck traffic and are unaffected by oil, grease, acids, etc. Application of the markers is quick and easy. Simply remove the zip-tab liner which protects the adhesive on the back of the marker and apply to any clean, dry surface.

Circle 38 on Card, Facing Page 82

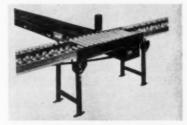
Zinc-Oxygen Fuel Cell

Exide Industrial Div., The Electric Storage Battery Co., is introducing a rechargeable zinc-oxygen fuel cell that will be several times more powerful per cubic foot than any cell so far demonstrated. Agreements have been made with the nation's materials handling equipment manufacturers to study the possibility of developing an adaptation of this fuel cell to power electric industrial trucks. It is predicted that such a cell will be able to provide enough power to keep an elec-tric industrial truck going continuously in heavy-duty service for 16 to 24 hours before the fuel cell would need to be recharged. This zinc-oxygen cell can be reversed, recharged electrically, to restore its full power notential.

Circle 39 on Card, Facing Page 82

Live-Roller Transfer Unit

The Rapid-Standard Co. offers a live-roller transfer section which enables materials to be merged from two conveyor lines into one line or



from a single line into two lines. These units can be inserted at any point along an adjustable pressure conveyor. They are powered by the same belt that drives the main conveyor line.

Circle 40 on Card, Facing Page 82

Self-Adhesive Foam Sheet

A self-adhesive polyurethane foam in sheet form is a new product manufactured by The Morgan Adhesives Co. Available in graduated sizes from ½ to 4 in. thickness this sheeting will bond itself to either porous or smooth surfaces.

Circle 41 on Card, Facing Page 82

Lock Ring for Containers

A new bolt-type locking ring and redesigned drum cover for 55-gal steel drums is being offered by Inland Steel Container Co. This new ring is reinforced by heavy forged lugs which

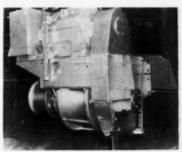


grip the entire contour of the ring. When a severe impact occurs, the lugs remain intact holding the cover securely in place, keeping the drum fluid-tight.

Circle 42 on Card, Facing Page 82

Cargo Winch

Cargo winches for vertical mounting are being built by Lake Shore, Inc. Mounted to the kingposts, the cable will be led directly up the kingpost, thus eliminating heel blocks. This will



provide increased, usable deck space with elimination of rigging on the deck from winch to heel blocks or permit larger hatch openings for easier cargo handling.

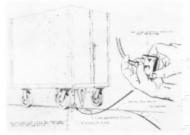
Circle 43 on Card, Facing Page 82 (Please Turn Page)

New Products and Equipment

(Continued from Preceding Page)

Automatic Truck Selector

A newly designed radio frequency selector for its automatic Towveyor truck systems is available from Jervis B. Webb Co. The new selector is designed for in-floor dragline systems requiring less than six transfer points



or loading and unloading stations. Simply by the setting of a dial the selector will, through the use of low frequency radio signals, both route a truck and announce its arrival at a predetermined transfer point or loading station. Employes working away from station or transfer points can be alerted to the truck's approach.

Circle 44 on Card, Facing Page 82

Hydraulic Power Sweeper

A new type of power sweeper, operated with a sealed hydraulic drive system, is offered by The Hydra-Action Co. This sweeper uses and 18-hp motor to operate a sealed hydraulic



drive system that transmits power to the rear wheels. With only one foot pedal, the operator can go forward, reverse, change speeds, and apply the brakes. This unit has no transmission, clutch, or drive chain and does not require the usual sweeper adjustments. Turning radius is only 53½ in.

Circle 45 on Card, Facing Page 82

Air-Driven Stapling Head

A self-contained air-driven stapling head designed for ease in mounting directly on a conveyor, bench, or



packing table has been introduced by Bostitch, Inc. Built for wide-crown staples, the new heads are ideal components for making simple multiple-head installations which will drive several staples simultaneously. Such a series of gang-mounted heads can seal an entire container in one operation. This unit is easily adjusted to accommodate different box sizes and corrugated board thicknesses without the use of tools.

Circle 46 on Card, Facing Page 82

Industrial Platform Truck

The Prime Mover Co. has an industrial platform truck listed under Classification "G" by Underwriters' Laboratories, Inc. Safety features on



the truck include protective fuel tank cap, special fuel line and fittings, individual breakers on all electrical circuits, and spark arrester muffler. Capacity is 1000 lb with cargo area of 18 sq ft.

Circle 47 on Card, Facing Page 82

Adjustable Tandem Mounting

Fruehauf Trailer Co. has improved its adjustable highway trailer under construction. Improved sliding action is achieved through the use of new lubricated bronze bearings. This unit



allows an operator to change tandem locations and balance his cargo in a matter of minutes. The salt-resistant bearings are lubricated by pressure fittings which feed grease into the "V" shaped distribution grooves on the surface of each bearing.

Circle 48 on Card, Facing Page 82

Safety Rack Load Locking Device

New safety load lock from Acne Steel is integral part of rack beam. Locked or unlocked with one hand, it stays anchored under toughest jolts. Circle No. 23.

Three New Lift Trucks in Series

Three new lift trucks from Allis-Chaimers handle capacity loads from 300 to 5000 lb. All have new power-crater engine for top-flight air and fuel mix. Circle No. 1.

Protection Services Are Automatic

American District Telegraph Co. clients get modern full-time protection against fire, burglary, holdup, other hazards plus regular "depth" inspections. Learn how you can too. Circle No. 16.

Gas-Operated Fork Lift Sans Clutch

You get a simplified power package with Automatic's gas-operated lift truck without the bother of clutch or hydraulic torque converter. It delivers loads up to 10,000 lb on cushion tires. Circle No. 3.

Big Truck Cost Cut

You can save 30 per cent on fuel costs, increase pump life by 50 per cent, and reduce initial costs with Automatic's gas lift truck. Bulletin gives details. Circle No. 22.

Erase Lift Truck Downtime Costs

Brochure from Clark Equipment tells how fast you can get vital truck parts and reduce downtime costs and production lag. Circle No. 77.

Fork Lift for Budget-Minded

If you're counting pennies or aligning a budget, plan an Elwell-Parker electric lift truck into your over-all design of profitable peak production. New catalog just released. Circle No. 19.

Air-Powered Hydraulic Dockboards

Custom engineered for terminals, warehouses, and plants are the dockboards from Freightliner Corp. They require no electrical power at the dockboard. Circle No. 10.

Power Lift Trucks

Crown Controls Co., Inc., announced a low cost power-propelled lift truck specifically designed for light and reedium-duty handling applications. The unit is rated at 1500-lb capacity.



57-in. lifting height, with a total overall length of only 54 in. Nineteen

different power-propelled models are available in both telescopic and fixed mast types. Lifting heights range from 54 to 130 in.

Circle 49 on Card, Facing Page 82

Chain-to-Chain Connectors

Links to provide a detachable chainto-chain connection for making endless slings is being offered by American Chain Div., American Chain & Cable Co., Inc. These links were developed to meet situations in indus-



try where normal endless slings cannot be satisfactorily applied to the proper position on the load being handled. The C link assemblies are fabricated in ¼ in. x 2 ft, ¾ in. x 2 ft, and ½ in. x 2 ft sizes which include the link attached to a 2-ft section of alloy chain.

Circle 50 on Card, Facing Page 82

Crane Dolly

Auto Crane Co. is offering an auto crane dolly unit featuring the combination of battery-powered hoist and boom. Operated by simple push button controls, the unit may be used for precision spotting and other materials handling jobs requiring a high de-



gree of control. The 9-ft boom may be raised or lowered under load. The dolly is ruggedly constructed, yet highly maneuverable, since all the casters swivel 360-deg under heaviest load. Available in six models, it can be used with light to 3000-lb loads and for vehicle, dolly or stationary use.

Circle 51 on Card, Facing Page 82

Literature from the Advertisements

Listed below are brief descriptions of catalogs, brochures, booklets and other literature offered by advertisers in this issue of DISTRIBUTION AGE. To get your copies of the items offered, simply circle the appropriate number on the Reader Service Card, facing Page 82.

Siliconic Plate Battery

Gould-National batteries bring all the benefits of electric fork truck performance flits prevention of grid corrosion. A siliconic plate gives 25 per cent longer battery life. Circle No. 5.

Truck Rentals Equal Expanded Fleet

Expand your fleet during peak delivery periods with Hertz Truck Rental Service. Stakes, vans, panels, pickups are always ready. They're yours by the hour, day, week, or longer. Circle No. 24.

Cushion-Tire Lift Trucks

Hyster's gas-operated fork lifts run on cushion tires. Right foot controls power and shifting while left foot controls inching and braking. That's Monotrol, for you. Circle No. 7.

Wood-Top Platform Trucks

Rugged reliability of Lansing Co's. platform trucks helps handle capacities up to 3000 lb with low maintenance cost. Superstructures are available. Circle No. 12

MH Equipment Selector Guide

Original or replacement equipment for in-plant handling and warehousing can be selected easily from Lewis-Shepard's condensed equipment catalog. Circle No. 20.

Two Drive Wheels on Lift Truck

The dyna-dual power unit by Lift Trucks, Inc., is interchangable on all truck models. It has two driving wheels, not just one, plus easier steering. Circle No. 15.

In-the-Floor Freight Handling

Link-Belt Co. makes Trukveyor, the in-floor freight handling system, to ease warehouse congestion, expedite shipments, save money-making floor space. Circle No. 9.

Top Truck Performance Looks Good

Diesels from Mack Trucks wrap their high performance records in clean-cut appearance, solid style lines without sacraficing savings. Circle No. 4.

Hand Trucks, Pallets, Ramps

Handling ease is a built-in feature of the hand trucks, ramps, and pallets from Magnesium Co. of America. They're described and illustrated in new literature. Circle No. 18.

Wall Chart of Terminal Points

New wall chart from McLean Trucking Co. pinpoints its terminal cities with points served near each. Preventive maintenance keeps your shipments on schedule. Circle No. 25.

Solids Hold Fast Rim

The Monarch Rubber Co. has developed a solid which consistently defies metal scraps and chemicals aided by heat to separate tread from rim. Circle No. 14.

Temperature, Time Recorder

New recording thermometer by Pacific Transducer Corp. has four ranges with spring clock movement for cold storage use in warehouse or in-transit. Pack it with the load. Circle No. 12.

Coordinated Transportation

If you can't see coordinated transportation in action at the REMS Show in San Francisco June 13 to 16, take an arm chair tour of Pullman-Standard's piggyback, containerization progress. Circle No. 8.

Hydraulic Pallet Truck

Pallet truck from The Raymond Corp. can complement present power equipment, speed-up in-process handling, move short hauls up to 3000 lb. All with 270 deg turning radius. Circle No. 11.

Visible Warehouse Record System

Learn about the visible record system used by public warehouses to reduce clerical work and improve customer services. Remington Rand has the warehousing method sheets. Circle No. 6.

Piggy-Back from North to South

Seaboard Air Line Railroad's piggyback service between North and South can help you with your transportation problems. All the facts are yours for the asking. Circle No. 26.

Lease, Rent, Buy MH Equipment

Capital-saving services are a specialty with Towmotor - Gerlinger. Many lease with out down - payment, rent without cash outlay, buy and save as they pay. You can, too. Circle No. 2.

Portable Pallet Racker

New pallet racker from Material Handling Division of Union Asbestos and Rubber Co. converts standard pallets into low-cost portable racks. Stack ceiling high, rigidly. Circle No. 21.

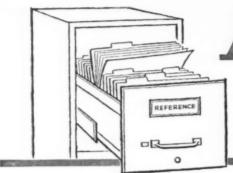
Elevating Tailgates

Your stake and van trucks should be equipped with H. S. Watson Co.'s elevating tailgates if you want to expedite shipments via single lever control. Automatic lock too. Circle No. 17.

Electric Trucks in 2000-lb Range

Ever watch a lift truck with infinite speed variation? Yale industrial lift trucks have it for close-in inching along with smooth right-angle turns. Brochure shows all benefits. Circle No. 27.

DISTRIBUTION



AIDS

- Catalogs
- Specifications
- Directories
- Case Studies
- Reports

Warehouse Operation Study



REDUCE HANDLING TIME 50% A study completed at the Quackenbush Warehouse Co., Scranton, Pa., disclosed that extensive use of Townotor Corp. fork lift trucks in all phases of warehousing operation has re-

duced operating costs. Some of the savings achieved by Quackenbush are a 50 per cent reduction in handling time, a 1/3 increase of usable warehouse space, and a 10 per cent cut in overtime labor.

Circle 52 on Card. Facing Page 82

Daily Time Schedule

T.I.M.E., Inc., has prepared a new daily schedule showing pickup and delivery dates for shipments to cities in 35 states. Forty pages of schedules to both direct line points and to points served by through-trailer service are included. This schedule can be used to determine when to ship and when to order for receipt on a given day.

Circle 53 on Card, Facing Page 82

Distribution Center

The facts about the Chattanooga Warehouse & Cold Storage Co. are given in a sheet recently released. Services and facilities are listed.

Circle 54 on Card, Facing Page 82

Gasoline-Powered Trucks

New literature from Baker Industrial Trucks Div. of Otis Elevator, describes three gasoline-powered trucks designed to combine high performance with low maintenance and low initial cost. Tables of dimensions, capacities, weights, and speeds and details of design and construction are given.

Circle 55 on Card, Facing Page 82

Routing Directory

A new 72-page routing directory is offered by Interstate Motor Lines. It includes three operational maps showing company routes and 16 major city commercial zone maps along with other valuable information for shippers and receivers of freight.

Circle 56 on Card, Facing Page 82

Industrial Plant Location

For information on industrial sites in the western and southwestern states write for the informative booklet prepared by the Southern Pacific Co. It gives advice on picking a plant site, laying out plans for spur tracks, utility and highway access, and other planning activities.

Circle 57 on Card, Facing Page 82

Fire Protection Booklet

Fifteen different types of fire protection for extinguishing and controlling all types of fire are described and illustrated in a new brochure presented by Rockwood Sprinkler Co.

Circle 58 on Card, Facing Page 82

Fork Truck Selection

Materials handling engineers with unusual handling problems will be interested in an eight-page brochure "Standards vs. Specials" published by Automatic Transportation Co. Five pages of illustrations show both types of trucks presently being used by industry, plus additional literature on various other models.

Circle 59 on Card, Facing Page 82

Electric Powered Truck

Cushman Motors in an illustrated pamphlet describes its new 780 Truckster which carries an 800-lb payload at a total operating cost of less than one cent per mile. Accessories and specifications are also given.

Circle 60 on Card, Facing Page 82

Low-Clearance Fork Lifts

Clark Equipment Co. has three new low-silhouette battery-powered fork trucks which are intended primarily for low clearance operations such as loading and unloading highway trailers. Drawings and facts on the new additions are available in brochure form. Charts give lift heights and lifting speeds.

Circle 61 on Card, Facing Page 82

Four-Wheel Hand Truck

Double angle construction provides maximum strength and easy deck removal on the new hand truck made by SI Handling Systems, Inc. A fact sheet in three colors pictures the truck and its main features. Special wheel tread is molded on rubber wheel which has shielded ball bearings.

Circle 62 on Card, Facing Page 82

Industrial Scale Folder

Toledo Scale is offering a new piece on its full line of industrial weighing equipment. Fifty-six illustrations and descriptions help in determining the type of scale suited for the particular job. Specifications and capacities are listed for each model.

Circle 63 on Card, Facing Page 82

Pressure-Sensitive Products



Now available from Mystik Adhesives Products, Inc. is a revised industrial manual containing information on its full line of industrial tapes, bulk adhesives, coatings, and other pres-

sure-sensitive products. Products are cross-indexed. The cross index saves time for the industrial specifier and helps him find the exact product for

Circle 64 on Card, Facing Page 82

For prompt service, use the postage-free postcard provided to obtain FREE LITERATURE and NEW PRODUCT information described in this issue. All material on these pages is FREE unless otherwise noted.

Aluminum Dockboard



New from F. H. Langsenkemp is a compilation of the facts about its aluminum dockboard and how it can economically solve your materials handling problems. The bro-

chure points out how the use of special aluminum alloys allows the dockboard to support twice the load with half the weight of comparable sized dockboards.

Circle 65 on Card, Facing Page 82

Plywood Handling

A case history bulletin from Lewis-Shepard Products, Inc., shows how dimensional planning and the use of a special narrow-aisle truck resulted in extra storage capacity, more efficient stocking, and faster order picking for a plywood warehouse.

Circle 66 on Card, Facing Page 82

Expendable Pallets

Materials, Inc., would like to send you literature on its expendable pallet. Weighing less than 7 lb, it has been tested to more than 28,000 lb load. The strength of the pallet is the result of a rugged wood veneer that bolsters the corrugated paper body.

Circle 67 on Card, Facing Page 82

Electric Fork Truck

Now available from Elwell-Parker Electric Co. is an illustrated brochure describing its 6000-lb capacity industrial electric truck. Fully described is the carbon-pile speed control, designed to give operators greater control over speeds by providing smoother, step-less acceleration. Photographs, diagrams, and full truck specifications are included.

Circle 68 on Card, Facing Page 82

Dockboard Folder

Hammerslag Equipment Co. is offering a folder describing its line of dockboards. The new drop pin feature which automatically positions the dockboard between the rail and the dock is illustrated. A selection chart for proper length dockboard is also given.

Circle 69 on Card, Facing Page 82

Air-Power Stapler

New literature from Signode Steel Strapping Co. describes its air-power stapler. Cut-away views and light pattern photos illustrate the new improved features.

Circle 70 on Card, Facing Page 82

ROOKS

Packaging

A new book "Industrial Packaging" will serve as a valuable tool in helping to select materials, methods, and equipment necessary to prepare and protect merchandise for shipment and distribution. This 536-page book has many special features. It defines the basic principles of industrial packaging; includes new views, analysis, and data; and stresses latest equipment and methods as the important means to reduce the cost elements of the packaging function. The major divisions of the book are: Scope, Packaging Materials and Shipping Containers, and Packaging Methods and Equipment.

Copies of the book, priced at \$11.50, can be obtained from John Wiley & Sons, Inc., 440 Park Ave. S., New York 16, N. Y.

Bills of Lading

The 44-page booklet "How to Prepare and Process U. S. Government Bills of Lading" explains the revised Standard Forms approved by the General Accounting Office for government-wide use as soon as stocks become available. The new forms represent the first major changes in the GBL format since before World War II.

Designed for on-the-job use, the handbook contains sample fill-in entries and tells what type of information is called for on a block-by-block basis, how it should be entered and why such information is required.

Copies of the handbook, priced at 35 cents each, may be obtained from the Government Printing Office, Superintendent of Documents, Washington 25, D. C.

Air Shipping Guide

The Port of New York has prepared a new 36-page guide to air shipping. It gives facts and figures about the port and its many and varied facilities which should be of interest to anyone who ships or plans to ship via air and the port. International and domestic shipments are covered

Circle 71 on Card, Facing Page 82

New Warehouse Directory

The 1960 edition of the Allied Distribution, Inc., Directory is being offered. It lists the names, addresses. telephone numbers, officials and pertinent information on the facilities and services offered by each of the ADI member warehouses.

Circle 72 on Card, Facing Page 82

Fork Truck Cost Calculator

How to estimate your industrial truck costs in minutes is explained in a 12-page brochure prepared by Lead Industries Assn. Charts show costs of depreciation, operation, and maintenance for both gasoline-powered and battery-powered trucks. What do they cost to own, to operate, to maintain? With the aid of this handy calculator you can get the complete answers to these questions. The charts do the paper work that could mean substantial savings in your operation.

Circle 73 on Card, Facing Page 82

EOCI Directory of Members

Electric Overhead Crane Institute is offering its 1960 Membership Directory. Companies, addresses, telephone numbers, and officials are given.

Circle 74 on Card, Facing Page 82

Lighting Regulation Chart

A 12-page pamphlet illustrated with drawings and photographs to clarify the new ICC lighting requirements has been prepared by Anthes Div., Gleason Corp. A summary chart of the major ICC safety equipment regulations is included.

Circle 75 on Card, Facing Page 82

Roofing Guide



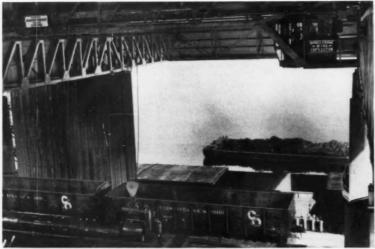
Illustrated brochure from The Monroe Co. covers common roof problems and recommends repairs and maintenance to overcome each. Included are such problems as flashing damage,

and alligatored, blistered, torn, or open seams.

Circle 76 on Card, Facing Page 82

An integrated terminal

This terminal replaces a derrick boat which was inoperative during periods of high water with special trolley crane for expediting rail, highway, and water shipments of steel



Hot and cold rolled steel sheets, coils as well as coated steels pass through Armco Steel's Ohio River terminal. Three barges can be handled daily. Tonnages for day ranges from 800 to 1000 tons. Usual bridge travel is 125 ft, average hoist distance is 52.5 ft between tracks and barge





Terminal is equipped with floodlights for 24-hour operation. When river reaches the 44 ft stage, halting the use of railroad cars, trucks bring outgoing steel to the terminal. Truck roadway is usable up to 61-ft water level. This rise of water level occurs about 5 per cent of each year. The Ashland Works has seven shipping buildings all of which handle up to 100,000 tons a month. Barges are moored at the cement and steel piers.

Twenty-ton crane is mounted inside terminal. It operates above all work areas. Trolley has 100-ft span. Crane uses magnet, packlifter, and clamshell bucket. Twenty rail cars can be stored on the tracks. Mechanical car puller moves them in terminal. Piers provide dock space for 13 barges



Stanhaus calls for new techniques, research agency at TOC Convention

VER 300 operations executives of the trucking industry took part in "Imagineering for Improved Operations Efficiency" during the 12th Annual Meeting of The Operations Council of the American Trucking Associations, Inc.

During four days of intensive brainstorming and general meeting sessions, the executives divided into nine groups for 54 workshop clinics.

At the end, these bosses of freight handling and movement carried away sheaves of notes, outlines, and diagrams of new and successfully tested service ideas,

The next Annual Convention of the TOC will open in Atlanta, Ga., June 1, 1961.

plans, and techniques. The phases covered included freight handling, terminal layout and design, handling personnel, communications, containerization, paperwork, and the other operations areas of the trucking business.

The meeting was called to order by Claude Wells, chairman of The Operations Council, and vice president-operations of McLean Trucking Co., Winston-Salem, N. C. "The theme of this meeting," he said, "sums up our aim: To apply imaginative thinking to the problems which confront us, and to share the fruits of our thinking with each other for the good of the trucking industry."

Stanhaus Is Keynoter

The first speaker was W. Stanhaus, president, Spector Freight System, Inc., Chicago. He keynoted the meeting by urging the trucking industry to set up a new research

New agency could develop vital techniques and research trucking interests without great economic burdens, TOC speaker feels

and development agency for operating techniques. Such an agency, he said, would be able to draw upon greater physical resources, greater scope of talent and ideas, without imposing great economic burdens on any of the participating companies.

"The industry has no choice but to find and develop means to do a better job more economically to offset increased costs," he warned.

After this address the members convened at the various workshop clinics. A schedule, arranged during registration, made it possible for every person to attend each workshop during the meeting.

The first luncheon speaker was A. B. Bray, general claim agent, East Texas Motor Freight, Dallas, and second vice chairman of the National Freight Claim Council of ATA. To show the ratio of claims to revenues, he quoted data compiled in an ATA study last year. That study covered the operations of 112 highway carriers during the last half of 1958.

The combined revenues of these carriers, he said was \$500 million. Their claims were \$7.5 million gross or \$5.3 million net. "Multiply these figures by 3000 or 4000 carriers and it will make the national debt look like small change," he said.

The solution to the OS&D problem, said Bray, lies in better training of freight handlers and drivers. The responsibility for this

(Please Turn to Page 112)



Newly-elected TOC officers are pictured at the recent convention. They are (left to right) James W. Boyer, executive secretary; Robert D. Beach, vice president-operations, All States Freight, Inc., Akron, Ohio, second vice chairman; F. T. Stroud, vice president, Mercury Motor Express, Inc., Jacksonville, Fla., first vice chairman; M. S. Lee, vice president, Lee Way Motor Freight, Inc., Oklahoma City, Okla., chairman; D. D. Padgett, vice president-operations, Yellow Transit Freight Lines, Inc., Kansas City, Mo., treasurer; and John R. King, executive vice president, Mason and Dixon Lines, Inc., Kingsport, Tenn., third vice chairman. More than 300 operations executives attended the recent Annual Meeting

Yale low-cost electrics

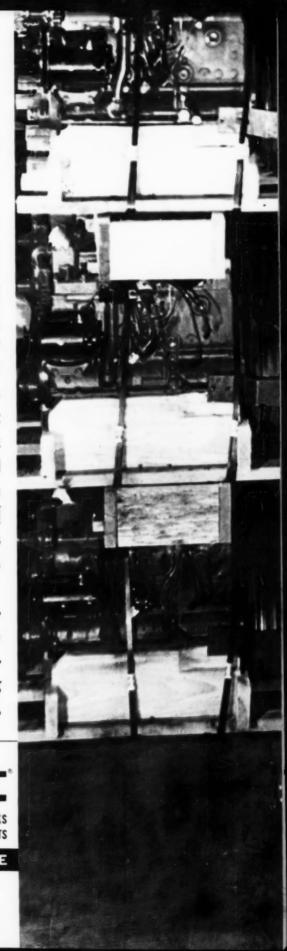
in the 2000-3000-lb, capacity range are saving time and money for industry every day. Delicate maneuvering and deft handling are especially easy with this truck, for the mechanically actuated carbon pile speed control permits close-in inching and infinite speed variation. Twin-caster steer wheels make steering effortless, and easy right-angle turns in narrow aisles sharply increase storage space, cut stacking time. This electric truck saves maintenance overhead and "down-time" because of a minimum of moving parts and an economical powerplant. This is one of Yale's complete line of industrial lift trucks ... the right truck for every job! For full information, call your Yale representative or send for free brochure #5265 to The Yale & Towne Manufacturing Co., Materials Handling Div., Philadelphia 15, Pa., Dept. KT7.

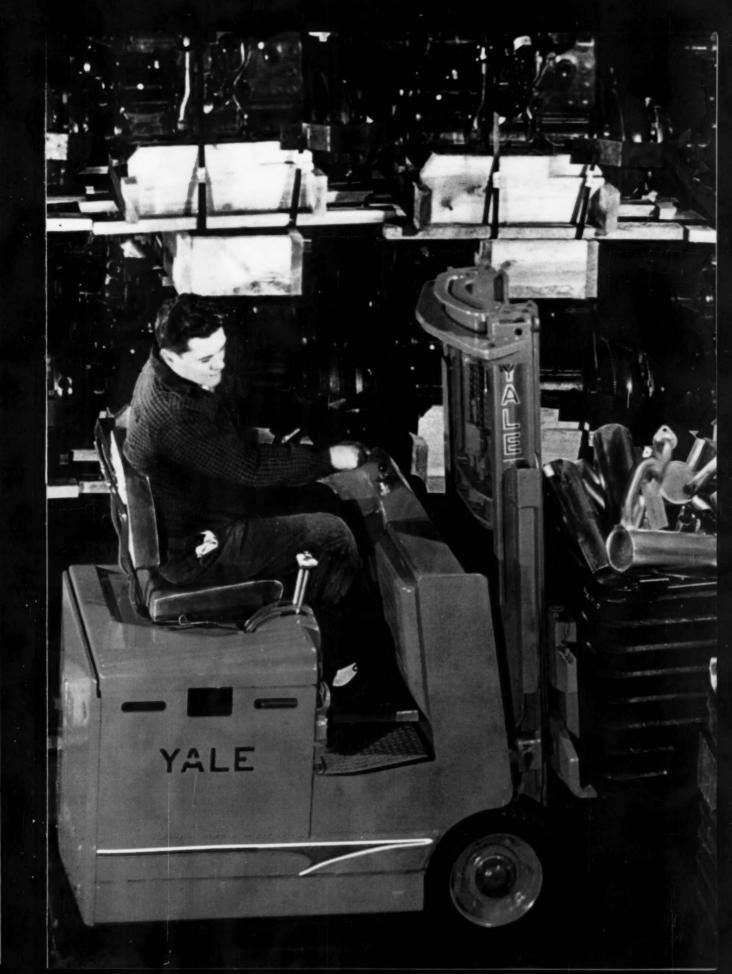
Yale Materials Handling Division, a Division of The Yale & Towne Manufacturing Company. Manufacturing Plants: Philadelphia, Pa., San Leandro, Calif., Forrest City, Ark. Products: Gasoline, Electric, Diesel and LP-Gas Industrial Lift Trucks Worksavers · Warehousers · Hand Trucks · Industrial Tractor Shovels Hand, Air and Electric Hoists.

YALE

INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS • HOISTS

YALE & TOWNE







A. R. Carstensen NARW president



C. J. LaMothe AWA president



David E. Taylor Mdse. Div. president

AWA adopts plan for "effective" group

Two-year plan for AWA calls for revision of by-laws, work with both divisions so united front can be presented at 1962 joint meeting

AT ITS RECENT Annual Meeting, the American Warehousemen's Association re-elected C. J. LaMothe president for a two-year term of office.

LaMothe, who is chairman of the Board of the St. Louis Terminal Warehouses, will serve along with Philip G. Kuehn, vice president; Willard A. Morse, treasurer; and Donald E. Horton, secretary.

Places Retained

During a week of meetings, it was decided that the organization's general officers would retain their places in the AWA structure and work with the NARW and Merchandise Division leaders toward developing a more united and "effective and active association." The motion was carried as presented by J. B. Craddock, Jr.

The next combined gathering of the merchandise division and the NARW will not be held until 1962. Next year the NARW will hold its convention at the Mark Hopkins Hotel, San Francisco, from March 27 to 30. The Merchandise Division will meet shortly after that at the Hilton Hotel in Denver, April 9 to 13.

New Division Officers

Each division of the AWA, however, elected new officers. Those serving the Merchandise Division for the next year are David E. Taylor, Taylor-Edwards Warehouse and Transfer Co., Seattle, Wash., president; John K. Dozier, Houston Terminal Warehouse and Cold Storage Co., Houston, Texas, vice president; and James E. Wilson, Jr., Wilson Warehouses, Inc., Buffalo, N. Y., treasurer.

The National Association of Refrigerated Warehouses, Inc., elected A. R. Carstensen president. He also is president and general manager of Crystal Ice and Cold Storage Co., Sacramento, Calif. G. A. Shoemaker, Hygeia Refrigerating Co., Elmira, N. Y., was elected vice president. W. L. Baker, The Seat-

New Officers of Sales Groups

Allied Distribution, Inc.

Chairman of the Board-H. M. Clark, Jr., Holman Transfer Co., Portland, Ore,

President—A. H. Laney, Laney and Duke Storage Warehouse Co., Inc., Jacksonville, Fla.

Executive Vice President—John Flynn, Chicago Treasurer—K. T. Levins, Calumet Harbor Terminals, Inc., Chicago

Secretary—Clark Bradley, Interstate Trinity Warehouse Division of Great Southwest Warehouses, Inc., Dallas, Tex.

American Chain of Warehouses, Inc.

President—John K. Dozier, Houston Terminal Warehouse and Cold Storage Co., Houston, Tex. Executive Vice President—John W. Terreforte, New York

Vice President—T. L. Hansen, Hansen Storage Co., Milwaukee, Wis.

Secretary-Treasurer—William E. Seeley, Midland Warehouses, Inc., Chicago

Associated Warehouses, Inc.

Chairman of the Board—G. W. DuBois, Midway Terminal Warehouse Co., St. Paul, Minn. President—Dee Hill, Koon-McNatt Storage and Transfer Co., Dallas, Tex. Vice President—H. C. Cockrell, H. C. Cockrell Bonded Storage Co., Richmond, Va. Executive Vice President—Clyde Phelps, Chicago Treasurer—L. H. Rainwater, Jr., Gallagher's Warehouses, Inc., Philadelphia

Distribution Service, Inc.

President—D. E. Taylor, Taylor-Edwards Warehouse and Transfer Co., Inc., Seattle, Wash. Vice President—C. W. Drake, Lehigh Warehouse and Transportation Co., Nework, N. J. Treasurer—H. F. Partridge, Anchor Storage Co., Chicago
Secretary—J. G. Temple, Chicago

tle Ice and Cold Storage Co., Seattle, Wash., is the new treasurer.

Committee Chairmen

Several committee chairmen were appointed to head NARW groups. The Government Affairs Committee is headed by G. J. Stecker, Merchants Ice and Cold Storage Co., Inc., Louisville, Ky. W. C. Hudlow, Jr., Chattanooga Warehouse and Cold Storage Co., Chattanooga, Tenn., is new chairman of the Industrial Relations Committee.

Hubert M. Arons, Hartford Freezer Corp., East Hartford, Conn., is chairing the Insurance Committee; A. W. Oakley, Jr., Hudson Refrigerating Co., Jersey City, N. J., Safety Committee; and C. A. Bowen, Jr., Noel and Co., Inc., Nashville, Tenn., Warehouse Operations Committee. ●

INDUSTRIAL TRUCK SPECIFICATIONS

The Manufacturers

Allis-Chalmers — Allis-Chalmers Mfg. Co., Tractor Group, Box 512., Milwaukee 1, Wis. American Road Equipment Co., 4201 N. 26th St., Omaha II, Nebr. Automatic—Automatic Transportation Co., 101 W. 87th St., Chi-cage 20, III.

P. O. Box 5675, Cleveland 2, Ohio.
Barrett-Cravens — Barrett-Cravens — Barrett-Cravens — Sarrett-Cravens Co., 630 Dundee Rd., North-

N. Rosemead Blyd., El Monte. Call.
Calr.—Clark Equipment Co., Industrial Truck Div., 24th St., Battle Creek 85, Mich. 24th St., Battle Creek 85, Mich. 24th St., Battle Crark. Ross—See Clark Equipment Co.
Parker Electric Co., 426 81. Clair Ave., Cleveland 3. Ohio.
Frickson—Frickson Power Lift Trucks, Inc., St. Anthony Blyd. & University Ave., N.E., Minneapolis 18. Minn.
Gerlinger—See Towmotor Corp. Champ—Champ Sales Corp., 2500 Rosemead Blvd., El Monte,

Hyster—Hyster Co., P. O. Box 4318. Portland S. Ore. Kalamazoo—Kalamazoo Mfg. Co., 1827 Reed St., Kalamazoo, Mich. Kwik-Mix.—Koehring Co., 3026 W. Concordia Ave., Milwaukee 16. Hustler - The Heifred Corp., Church & Elm Sts., Willoughby, Ohio. Lewis-Shepard — Lewis-Shepard Products, Inc., 101 Walnut St., Watertown 72, Mass.

(Please Turn to Page 61)

Specifications of some 1000 models and types of industrial trucks are included in this 16-page section. Because of space limitations, basic models only are listed for each firm. A multitude of variations, to fit the needs of the individual user, are

reprinted. Copies can be obtained at 70¢ each by writing The Editor of DISTRIBUTION AGE, Chest-nut & 56th Sts., Philadelphia 39, Pa. Quantity lot The entire section, from Pages 59 to 74, has been prices will be quoted on request.

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	GE—Gasoline engine. GS—Geared to suit requirements. HE—Hydraulie electric. Hydraulie.	Mechanical.	-Electric motor or gasoline engine.	nt-Hib- Solid Pressed
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ABBREVIATION	19—28 to 30. 20—300 to 350. 21—450 to 550. 22—27 with lead acid battery and	23 -250 to 330,	25—7, 8 or 9/c.	Ross
	10—10, 11, 1° 14 or 14%. 11—24 to 30. 12—25 to 30. 13—45 to 90.	14-9-76 or 11M.	17-300 to 1250 depending on length.	THE MANUFACTURERS-(Continued from Page 59)
	1-12 or 24. 2-Including platform. 3-Standard. 4-6 7 9 or 11.	5 - 515, 1015, 1215 or 1415.	7 - 12, 13, 15 or 17. 8 - 250 to 450. 9 - 6, 9 or 10%.	THE MANUEACTURERS

Ottawa—Ottawa Steel Div.,
Young Spring & Wire Corp., 435½
S. Main St., Ottawa, Kans.
Pettibone-Mercury — PettiboneMulliken Corp., 4706 W. Division
St., Chicago 5i, III.
Pettibone-Mulliken Corp.
Raymond — The Raymond Corp.,
17503 Madison St., Greene, N. Y.
Revolvator—Revolvator Co., Tonnele Aye, at 86th St., North Bergen, N. J. Lift Trucks—Lift Trucks, Inc., 2435 Spring Grove Ave., Cincinnati 14, Ohio.

Mercuy—Mercury Mic. Co., 4700 W. Dyvision St., Chicago 51, Ill., Mobilift Co., Div. of Minnespolls-Molline, Hopkins, Minn. Moreil Lift—John Morreil Mic., Co., 370 Elizabeh Ave., Elgin, Ill. Moto-Truc—The Motor-Truc Co., 1953 E. 59th St., Cleveland 3, Ohio. Oliver—Oliver Corp., 300 Lawler St., Charles City, Iowa.

Onio.
Silent Hoist Silent Hoist & Silent Hoist Hoist & Crane Co., Inc., 841-877 63rd St., Brookyn 20, N. Y.

Townston—Townstor Corp., 1226
E. 182nd St., Civerland 10, Ohio.
Transitier—Transitier Truck Co., 8475 North Lagoon Ave., Portland 11, Ore.
Truck Man — Truck - Man Div., The Knickerbooker Co., 603 Liberty St., Jackson, Mich. Scott - James Campbell Smith, ic., 4057 Erie St., Willoughby.

bard Industrial Truck Co., Div. of Jonard Industries, Inc., F. O. Box P. 227. Hanburg, P. P. P. Box P. Vale & Towne The Yale & Towne Mfg. Co., 11000 Roosevelt Blvd., Philadelphia 15, Pa. Editor's Note: Where tire and wheel dimensions are listed in these tables, the following guide should be followed: oliolwing guide Solid Moded On:
The Outside Diameter x Rim Width

Solid Pressed On Diameter x Base
The Outside Diameter x Base
Width x Wheel O.D.
Preumatic Wide Base: x Cross
The Outside Diameter x Cross
Preceding Width x Rim O.D.
Preumatic Narrow Base: Rim OutTree Diameter Width x Rim OutPreumatic Singe Tube:
Preceding Width X Rim OutPreumatic Singe Tube:
Pre Outside Diameter x Cross
Preumatic Singe Tube:
The Outside Diameter x Cross
Section Width Tube (Wheel):
The Outside Diameter x Cross
Section Width

R—Rides.
SD—Single or walks.
SD—Single or dual.
T—Triple.
W—Various.
W—Walks.

POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS

TIRE SIZES	Steering Wheels		Wheels	2
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POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS (CONTINUED)

TIRE SIZES	Steering Wheels		Wheels	66, x 5 66, x 5 66, x 6 66, x 6 66, x 6 66, x 6 66, x 8 66,	6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6			
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	Clark	Elwell-Parker.

POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS (CONTINUED)

### DISTRIBUTION AGE

TIRE SIZES	Wheels Wheels		200	9x5 9x5 9x5 9x5 9x5 9x5 9x5 9x5	6.00 9 6.00 9 6.00 9 7.50 15 7.50 15 7.50 15 7.50 15 11.00 20 10.5x7x6/5 6.00 9	7.50/15	
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# POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS (CONTINUED)

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18-224 1M-324 D-424-A L-524-A 1EW 1H 1H 1H ET ETW HTW	STMS-84 STMS-120 ITMC-1 ITMC-2 TMS-84 TMS-120 ITMS-120 ITMS-120 ITMC-F ITMC-F	EF CBL-68-15 CBL-68-15 CBL-68-15 CBL-68-15 CB-42-22 CB-42-22 CB-42-32 CBL-42-32 CBL-42	1550	TLC-50 TLC-60 TLC-70 TLC-28-21	16-18 16-20-A 16-20-B 16-20-B 16-30-H 16-30-H 16-40-H 16-40-H 16-40-H 16-40-H 16-40-H 16-40-H 16-40-H 16-40-H	Super 6   Super 10   Super 10   Super 12   Super 20   Super 30   Super 30   Super 60   Super 60	\$E2ST \$E2ST \$E2S \$E4ST \$E4ST \$E4ST
Mobilife	Morrell Lift	Moto-Truc	Oliver	Ottawa	Pettibone-Mercury	Pettibone-Mulliken	Raymond

### DISTRIBUTION AGE

# POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS (CONTINUED)

TIRE SIZES		Steering Wheels		10x5 10x5 10x5 10x5 10x5 10x5 4x3 4x3 4x3 16x4 10x5 10x5 10x5 10x5 10x5 10x5 10x5 10x5	12x3   2   12x3   2	10x5x6 ¹ 2 10x5x6 ¹ 2	7.50/15 9.00/15 9.00/15 14.00/20 14.00/20	13.3.3.26 13.3.3.26 13.3.3.26 13.3.3.26 16.4.45.1114 16.4.45.1114 16.4.45.1114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114 16.4.45.114	0.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
		Drive Wheels		10x5 10x5 10x5 10x5 10x5 10x5 10x5 10x5	12x3 12x3 12x3 12x3 12x3 12x3	18x7x1238 18x7x1238	7.50/15 Dual 7.50/15 Dual 8.25/20 Dual 9.00/20 Dual 14.00/24 Dual 14.00/24	17.44 (2.12), 17.44 (2.12), 17.44 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17.45 (2.12), 17	6.00 9 6.00 9 6.00 9 7.00 12
SPEEDS With Capacity Load	_	Lowering (Fpm.)		Var Var Var Var Var S5	55555	52	2000333		EEEE5
	_	Hoisting (Fpm.)		20 20 20 20 20 20 20 20 20 20 20 20 20 2	55555	43	20222333	84 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2 4 4 4 4 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
	Forward (Mph)		Forward (M)	0,00,00,00,00,00,00,00,00 0,00,00,00,00,	20000000	6.0	15.0 12.0 12.0 10.0	88888888885458888885 <u></u>	22222
BATTERY		Ampere Hours		800 600 600 800 800 800 800 800 600 600	Var Var Var Var			105 105 105 105 105 105 105 105 105 105	88888
BAT		Mormal Voltage		24 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	222222	(32)		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	00000
TURNING RADIU With 40" x 48" Pall	Hight	Minimum Aisle for Right (In.) Angle Stacking (In.)		78 72 72 72 74 74 Var 72 80	Var Var Var Var	723		28	118 122 122 122 145
		Intersecting Aisle Width (In.)		641 641 641 641	Var Var Var	99	109	55.3 6.63 6.63 6.63 6.63 7.7 7.63 7.7 7.63 8.86 8.86 8.86 8.86 8.86 8.86 8.86 8	900005
		Inside (In.)		zzzzzzzzzzz		00	135	2022 2023 22 22 22 22 22 22 22 22 22 22 22 22 2	18888
	(.nl) (	Outside (Tailswing) (In.)				~~		6 6 66 66	
		Maximum Overall- Including Carriage or Backguard		707 445 445 448 884 335 43 886 43 886 43 886 43		52	187 113 153 153 158 188 188 226 226 231 231 231 231 231	1401,2 58 1401,2 58 1401,2 58 1642 77 1642 77 1643 81 1643 81 1643 82 1653 81 1653 82 1654 82	181 181 181 64 206 87
			Lifting	24 24 24 24 24 24 24 24 24 24 24 24 24 2	56 56 56 56 56 56 56 56 56 56 56 56 56 5	30	208 208 208 208 180 208	222 222 222 222 222 222 223 223 223 223	130
		Maximum	Mast Extended	ZZZZZZ	175 175 134 175 175		187 11 270 27 270 28 282 282 243 11	337 337 337 338 338 338 338 338 338 338	149
	(In.)	Ε	Mast	ZZZZZZ@66666		88		No construction from their first first from two from their first from their first first from their first first from their	
	Height (In.)		Puiffing		104	888	112 162 174 174 197	74 83 74 83 74 101 74 101 74 101 75 101 75 101 75 101 75 101 76 101 76 101 76 101 77 101 78 101	22222
OVERALL DIMENSIONS	I	mum	Extended	622 622 622 622 622 622 622 622 623 623	883 883 499 893	96	120 120 120 120 120 120 120 120 120 120	ু ক্রের্ন্ন্র্ন্ন্র্ন্ন্র্ন্ন্র্ন্ন্র্ন্ন্	22222
		Minimum	Collapsed		955555	- 1 1	138 168 168 180 180 210 219	888 889 889 889 889 889 1177 1106 1106 1107 1108 1108 1108 1108 1108 1108 1108	103 103 103 103
			fesM	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	688888888888888888888888888888888888888	68	20021 120021 152021 152021	788588888888888888888888888888888888888	100000
		Free Lift (In.)		667 667 677 662 662 662 662 662 662 662	22 22	632	09	255255 255255 255255 255255 255255 255255	888888
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0	20		Fork (In.) At Truck	000000000000	Var Var	88	16 16 20 20 20 20	0000CCCC000000000000000000000000000000	40000
	Length			8888888899	Var Var Var	- 11	36 42 51 51 72 72 72	000000000000000000000000000000000000000	88888
	2	Less Forks (In.)		2000 SE 34 SE 35 S	38 Var 36 Var Var		120 150 128 190 226 243 256	60 60 77 77 77 77 77 88 88 88 88 89 99 100 100 70 100 100 100 100 100 100 100	71 74 96 96
	('ul	Load Center (In.)		222222222222222222222222222222222222222	24 24 24	24	386 2444	25222222222222222222222222222222222222	22 22 25
	-191n	Face of Forks to Center- line of Front Axle (In.)		× × × × × × × × × × × × × × × × × × ×	10 IO	13	23 28 33 28 28 28 28 28 28 28 28 28 28 28 28 28	13.2 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2.1 2	<u> </u>
		Wheelbase (In.)		488 601 601 601 601 601 601 601 601 601 601	Var Var Var	39	76 108 132 132 148 160	335 335 335 335 335 335 335 335 335 335	44442
ST	THE THE	Forward (Deg.)		ZZZZZZZZZZ	2 2	00	04444400		44444
MAST		Telescopic Rearward (Deg.)		>>Z>ZZZZZZZZZZ	2 :: 2	==		222222222222222222222222222222222222222	20222
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POWER	-				999	55	TITITIT	111111111111111111111111111111111111111	HIHHH
	Lift - Fork or Platform				ESSESS	EM	#888888 #8888888	555555555555555555555555555555555555555	ಕಠಕಠಕ
ealies			Operator Si	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	SSSSWW	St Fk	KKKKKKK	** ** * * * * * * * * * * * * * * * *	***
Service Weight (Lb.)— Excluding Battery			Service Weig Excluding Ba	3700 22900 21800 21800 2075 2075 3700 3700 3700 3700 3700 3700 3700 3	Var Var Var Var S	7400 S 7800 S	9950 S 14500 S 20000 S 30000 S 50000 S 65000 S	3005 ** 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8 5.8	3400 S 3760 S 4600 S 4600 S 6100 S
(*q*	Maximum Load Capacity (Lb.)			3000 2000 2000 2000 2000 2000 4000 2000 2000 4000 4000	4000 4000 4000 3000 3000	3000	10000 10000 20000 30000 50000 60000	1500 2000 2000 4000 4000 4000 1500 1500 1000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 11000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 10000 100	2000 2000 3000 3000
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⊼ <b>₹</b> W			Raymond—Cont	Revolvator	Scott	Silent Hoist	Townoldr	Transitier	

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	Truck-Man.	Wright-Hibbard	Yale & Towns.	

POWERED HIGH-LIFT FORK OR PLATFORM TRUCKS (CONTINUED)

TIRE SIZES		Steering	Wheels	15.00 2.22.10
		Drive	Wheels	22714 22714 22716
3S acity		- ('w	Lowering (Fp	1100 1100 1100 1100 1100 1100 1100 110
SPEEDS With Capacity Load		('u	Hoisting (Fp	000000000000000000000000000000000000000
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BATTERY			Ampere Hou	4 455 4 455 4 455 6 600 6 700 6
a A		95	Normal Volts	(a) (a) (b) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a
allet	IdgiR	tot ele (.nl) go	Minimum Ai Angle Stacki	1174 1174 1175 1175 1175 1175 1175 1175
A8.		oleiA	Intersecting Width (In.)	000 000 000 000 000 000 000 000 000 00
TURNING RADIUS With 40' x 48' Pallet			(.n1) obien1	2 2
With	('111')	Butasi	isT) ebistuO	
	(-1)		Maximum O Including Ca or Backguard	104 104 104 105
		-lianev	Lifting O mumixaM	The second of the second secon
		Maximum	Extended .	22 22 22 22 22 22 22 22 22 22 22 22 22
	n.)	Max	Collapsed	
	Height (In.)		teaM	
OVERALL DIMENSIONS	Ī	E	Ruittia	2000 1000 1000 1000 1000 1000 1000 1000
		Minimum	Mast	88 98 98 98 98 98 98 98 98 98 98 98 98 9
		2	Mast Collapsed	### ### ##############################
		1	Free Lift (In.	22 22 22 22 22 23 24 24 24 24 24 24 24 24 24 24 24 24 24
VER	Under	BUCB	Center (In.) At Mast (In.)	
	_		Fork (In.)	888 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	Length	(°u	Less Forks (11112
		(.nl)	Load Center	200 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	-nter- (.n.)	o to Cel	Face of Fork: line of Front	200 200 200 200 200 200 200 200 200 200
		(°u	Vheelbase (7.75 7.75 7.75 7.75 7.75 7.75 7.75 7.75
MAST	Telescopic Rearward (Deg.)			
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POWER		רונג		COLORIA DE LA CO
OF.	evitoM		evitoM	
	Lift-Fork or Platform		Lift-Fork or	######################################
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	47 - 12 if Diesel. 48 - 6 to 12. 49 - 70 to 12. 49 - 70 to 12. 49 - 70 and 14. 51 - 6 to 6
and the same of th	22. 22 to 36. 33. 300 to 452. 4. 300 to 452. 38. 450 to 576. 39. 450 to 646. 30. 100 to 46. 30. 100 45.
	17 — 18 to 30. 18 — Including battery and counter— 19 — 250 to 560. 21 — 450 to 560. 22 — 550 to 650. 23 — 550 to 650. 24 — 550 to 650. 25 — 550 to 560. 26 — 550 to 560. 27 — 54 to 32. 27 — 54 to 32. 27 — 54 to 32. 28 — 550 to 660. 29 — 550 to 660. 30 — 550 to 660. 30 — 550 to 660.
	Counter balanced. Counter balanced.

AB-Automotive regenerative brake.	GL Ga
Ch-Chain.	HC-H3
DB-Dynamic brake.	HE-Hy
DE-Diesel engine.	Hyd
E-G-Electric or gas-electric.	NON
EM-Electric motor.	Opt-Op
EMG-Electric motor or gasoline	Ptf-Pla
engine.	R-Ram
Fk-Fork.	Reg-Re
Fkr-Fork or ram.	S-Sits.
FR-Fork ram.	Sp-Bui
FV-Flow control valve.	Ss-Sits
GD Gasoline or Diesel engine.	St-Star
GDL-Gasoline, LPG or Diesel	Var-Va
engine.	W-Wal
GE Gasoline engine.	Y-Yes.

nerative brake.	GL—Gasoline or LPG engine HC—Hydraulie and chain.
	ME-Hydraulic electric.
electric.	N-No or none.
r or gasoline	Ptf - Platform.
	Req. Regulated.
VE.	Sp.—Built to specifications. Ss.—Sits or stands.
G or Diesel	Var-Various.
	Y-Yes.

INDUSTRIAL TRUCKS—TOWING TRACTOR TYPE

				Ka	BA	BATTERY	-	DII	MENSIC	DIMENSIONS (In.	2		RADI	TURNING RADIUS (In.)				SPEEDS	45		ABB	GRAD- ABILITY				TIRES	
		(sue		IPM 1		-	-	-			Ilad	1		-	1	-	-	Inadad	_	pope	(Pe	Cent		7	Type	S	Sizes
MAKE	(*6		Bu	sbnati						la	clearance	ance				-		(Mph)	35	(Mph)							
MODEL	Drawber Pull (Lt	Trailing Load— Dry Level Concre	Weight-Excludi	Operator—Sits, 5	Normal Voltage	Ampere Hours	Wheelbase	Length—Overall	Width—Overall	Height To Steering Whe	At Truck Center	Lowest Point	Outside	ebieni	Intersecting Aisle	Number of Forward Mumber of Rever	Forward	Нечегзе	Forward	Вечегае	Unloaded	baod betaff 1A	Coupler	Steering Wheels	Driving Wheels	Steering Wheels	Driving Wheels
Automatic FT E BTW ENW 2A WT-2A WT-4B WT-4	250000000000000000000000000000000000000	PVDD	7851 8551 1480 1780 1780 1780 1780 1780		2288.020 52025		22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	25 37 8 27 8 28 8 28 8 28 8 28 8 28 8 28 8	888989888	2,12			37. 107. 107. 107. 107. 107. 107. 107. 10	082 7	442 442 488 488 488 488 488		44886666646	44876667646	447000000	4470000			00000	2282 282	88 5855	10%x5 20x8 20x8 1444/% 10x5 10x5 10x6 10x6	17x44 16x4 16x4 16x4 16x4 10x5 10x5 10x5
ATW RTW	200	::					37	487	33	41	29.8	25.8	::	::	::		6.7	6.7			::		::	So	sc	10x5	10x5
Barrett-Cravens JW-1.5 JW-2 MW-3		10,7%	1600			Var Var	40 40	288	844	250	999		\$28	13. 37	238		~~=	~~00		0.000		1010101	0000	SCP	SCP	12x3½ 16x4x11 15x5x11¼	16x4 20x4x16 20x5x16
MW-4 10-12 10-12 80-24 61-24 01-0-24	2000000		2400	EEEEEEE	22222 22222		32,22,23	85.68 86.88 86.88 86.88	22.22	537. 588 588 588	22444	000000 000000					90000	00000	200000		288888	200000	555555	888888	888888	10x5 10x5 10x6 10x6	7x2 7x2 7x2 7x2 7x2
Clark CKE-5 CK-26 CK-26 CT-21 CT-21	2000 2000 2100 3000	29248	1850 3200 3400 3900	20000	шшшшш		¥552	106%	22222	33355	2000=2	26699	28888	32.55	6227		13.000	7.82.2.2			22822	marr	22222	33555	33555	13x3\5x8\4 14x4\5x8 14x4\5x8 6.00\9 6.00\9	16½x4x11½ 21x5x15 21x5x15 6.00/16 7.50/16

INDUSTRIAL TRUCKS-TOWING TRACTOR TYPE (CONTINUED)

	Sizes	Orlving Wheels	6.50.16 6.50.16 6.50.16 6.50.16 6.50.16 6.50.16 6.50.16 6.50.16 6.50.16 6.50.17 6.50.16 6.50.17 6.50.1	Ss-Sits or stands. Sr-Stands. Un-Universal. Var-Various W-Walks
TIRES	Sis	Steering Wheels	6.00 9 6.	
	Driving Wheels		\$	pheur
1	Ty	Steering Wheels	££££0036£030000000000000000000000000000	don.
		Coupler	G OMMMMOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO	natic. or cush 1, cush
GRAD- ABILITY Per Cent		At Rated Load	22 22 22 22 22 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24	Pn-Pneumatic. S-Salid or eathion. SCP-Solid, cushion or pneumatic. \$6-Solid.
ABII		DabsolnU	20 20 20 20 20 20 20 20 20 20 20 20 20 2	2000
	eq (q	Heverse	 ωωσ σ σ σ σ σ σ σ σ σ σ σ σ σ σ	
	(Mph)	Forward	mma coa ananamanamamamamana manamamamamama a a a	3 engin
SPEEDS	pe	Reverse		GL—Gasoline or LPG engine. GT—Grip tow. Part—Optional. P.C—Pneumatie or cusbion.
SPE	Unloaded (Mph)	Forward		asoline rrip tow ptiona
		Number of Revers		120 00 140 150 150 150 150 150 150 150 150 150 15
		Number of Forwar	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	00044
-2		Intersecting Aisle	468 488 488 488 488 488 488 488 488 488	ctric.
TURNING RADIUS (In.)		apjeuj	\$4.8550000 80.0 4.44.45 Action	gas-ele tior.
RADI		Outside	2009-27-4-2-3-18-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-	VIATIONS Cu-Cushion. E. Eye. E. Eye. E. M. Electric or gas-electric. GE-Gasoline engine.
	- Ju	Lowest Point	0000 0000 00000 00000 00000 00000 00000 0000	FIONS —Cushion. —Eye. G—Electric A—Electric —Casoline
	Under- clearance	At Truck Center		W .
DIMENSIONS (In.)	-	Helght—Treeling Whee	88884777488888888888888888888888888888	ABBF
ENSIO		Width-Overall	8888282548484688888888888888888888888888	towing
DIM		Length—Overall	72 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	cluding 700. 432. natic ja
		Wheelbase	4 4 8 8 4 4 8 8 5 4 4 8 8 8 8 8 8 8 8 8	ABBF Not including towing eyes, 200 to 700, 300 to 432, —Automatic jaw.
ERY		Ampere Hours	× × × × × × × × × × × × × × × × × × ×	AA 20 E E
BATTERY		Normal Voltage	882 E0005042E000054 5868 00000 00000 0000000000000000000000	dus. 43.4. 13.5.
Weight – Excluding Battery (Lb.) Operator – Sits, Stands, Walks		Motive Power		340 to 500 plus. 4.00/18 or 163,a4. 4.50/12 or 21x5. 350 to 600.
		Operator Sits, St	11 1111	340 t 4.00 4.50 550 t
		Battery (Lb.)	840000 W W W W W W W W W W W W W W W W W	115
		Dry Level Concrete	1 1111111111111111111111111111111111111	driv.
				pag 8
		Drawbar Pull (Lb.)	44m24w %	steerin
		E . L	FET 40 FE	Combination attenting and driv- ing wheels. San wheel
		AND AND MODEL	Clark—Cent. Kalamazee Lewis-Shepard Mercury Mercury Revolvator Townotor Yale & Towne.	1—Including battery. 2.—30 to 36. 4.—34 to 32. 4.—170 to 380. 6.—450 to 550.

Freight Rates . . .

(Continued from Page 39)

of both reports chiefly relate. Suppose the rail carrier can furnish a specific service at lower marginal cost than can the truck.

The highest rate that the rail carrier can charge, all other things being equal, and obtain the traffic, is the marginal cost of the truck. Because rates below marginal cost are prohibited by both reports, and are in any event without economic justification, the truck cannot charge a lower rate, and the rail carrier cannot charge a higher one without risk of losing the traffic. Thus "free market competitive pricing" tends to establish a ceiling on rates at the marginal cost of the higher marginal cost carrier.

Actually competitive rates may rise above this ceiling because "other things" often are not equal. For one thing, shippers' cost, apart from and in addition to the carrier rate, may be greater when associated with one mode of transport than with another. For example, it may be greater for truck than for rail when the marginal cost of the truck is higher than rail. In that event the rail rate may exceed the marginal cost of the truck. For another thing, there may be differences between the quality of the rail and truck services, or shippers may think

(Please Turn Page)



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Freight Rates .

(Continued from Preceding Page)

so. Then they may be willing to pay a higher rate for the superior service than the marginal cost of the higher marginal cost carrier.

The economic significance of such a ceiling is that while it does not reflect the cost of the more efficient carrier, it does enable the latter to establish the lower rate. Insofar as this carrier utilizes fewer resources in performing the service than does the other carrier, his employment by shippers results in a more efficient allocation of transport resources. But shippers do not receive the full benefits of the allocation because rates are not related to the cost of the low cost carrier.

When rates on non-competitive traffic are in issue, both reports provide for Commission control "to restrain carriers from charging excessive rates." They preclude the Commission from "prescribing maximum rates at less than the full cost of the service involved." They are not equally specific, however, in their recommendations for a ceiling on maximum rates. The Weeks Report asserts that "rates . . . shall not be in excess of a just and reasonable maximum."

There is evidence in the reports that, except where discrimination is an issue, the Commission would rarely be expected to fix a ceiling on maximum rates. Both reports explicitly establish "full cost" as a floor

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for such rates. It follows that rates in excess of full cost may be "just and reasonable." The removal of full cost as a barrier gives the carriers considerable liberty in making rates, and other recommendations in the report have the same effect. Thus the Weeks Report would deprive the Commission of its power to consider "the effect of the [proposed] rates on the movement of traffic. . . ."

While the Department is not explicit in this matter, it would curb the suspension power of the Commission and proposes a "long-term program [that] looks toward eventual elimination of the suspension power." Furthermore, the Department seems more concerned with "destructive competition" than with excessive rates. Cumulatively, this evidence suggests that rates, which in the judgment of the carriers move the traffic or maximize the return above marginal cost, are just and reasonable.

The Commission in its recent study, "Value of Service in Rate-Making," states that an allowable maximum rate "falls short of the concept of the maximum which can be levied without preventing the shipment from moving." This statement means that a ceiling on maximum rates must be less than demand price (for non-competitive traffic).

But demand price need not be excessive in its relation to full cost; it may even be less than full cost. The Commission's statement assumes a demand price greatly in excess of full cost. It is only in that event presumably that Commission intervention and a

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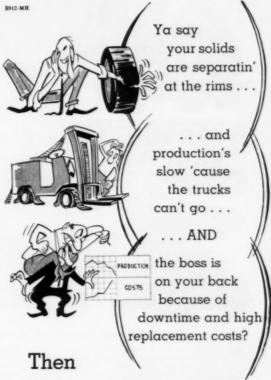
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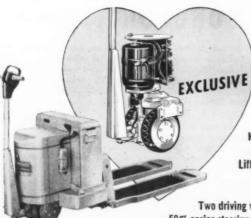
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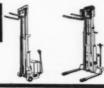
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Freight Rates...

(Continued from Preceding Page)

ceiling become relevant. It has already been demonstrated that both reports contemplate rates in excess of full cost. In view of the greater latitude the reports would give the carriers to make rates, it is difficult to envisage a practical ceiling on non-competitive traffic other than a rate that maximizes return above marginal cost.

Minimum Rates

There is a significant difference between the reports in respect to minimum rates. The Weeks Report states that "rates are unreasonably low when not compensatory, i.e., when they fail to cover the direct ascertainable cost of producing the service to which the rates apply." The Commission is forbidden to establish such rates, as, presumably, are the carriers. The Department would "set a floor for competitive pricing by amending the National Transportation Policy to define unfair and destructive competitive practices "to include only rates below the longrun marginal costs of the carrier making the rates."

The Department's introduction of long-run marginal cost is confusing. Long-run marginal cost may be more than, less than, or equal to short run marginal cost. What is important from an economic viewpoint is that a rate shall not be less than the marginal cost of the carrier that makes the Whether this minimum should be long-run or short-run marginal cost depends upon the circumstances mentioned above. When capacity is under-utilized it is sounder economic principle to equate rates with short-run marginal cost.

The Weeks Report in setting the floor of a minimum rate at the "direct ascertainable cost of producing the service" without specifying either the long-run or the short-run therefore constitutes the better policy.

As maximum rates under competition will hover around the marginal cost of the higher mar-

(Please Turn to Page 80)

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Freight Rates...

(Continued from Page 78)

ginal cost carrier, minimum rates under competition will move in the direction of the marginal cost of the low marginal cost carrier. Normally they will not fall to the level of the latter; they will tend to settle where net revenue above it is maximized. Thus, actual rates will depend upon the elasticity of the demand for the service. They will move closer to the marginal cost of the low marginal cost carrier when demand is highly elastic than when less elastic.

Actual Rates

From this discussion, it is apparent that actual rates under the recommendations of both reports will be determined chiefly by the elasticities of shippers' demands for transport services. They will vary between the minimum and maximum limits suggested above. Since there are innumerable trans-

port markets in the country and elasticities of demands differ among the markets in accordance with the availability of alternative services, it follows that the rate structure will be characterized by discrimination, modified only by such discrimination as is considered unlawful.

It is possible to avoid discrimination and yet preserve the advantage in rate-making of the low marginal cost carrier. This end can be reached either by fixing rates for particular services in proportion to marginal cost or by adding a uniform increment to marginal cost. The latter device appears more practicable. Suppose that a rail carrier can produce a specific service at marginal cost of one cent per ton-mile and that a competing truck can do so at marginal cost of two cents per ton-mile. In that circumstance, by adding an increment of one cent to the rail cost and one cent to the truck cost, a rate of two cents for rail and three cents for truck can be prescribed. Thus the rail carrier operating at lower marginal cost has the lower rate. At the same time discrimination is avoided. Another advantage is that the rate is related to the marginal cost of the low marginal cost carrier, not of the high marginal cost carrier. No problem remains in prescribing the limits of a noncompetitive maximum rate.



This is not the place to explore in detail methods of deriving the increment to be added to marginal cost. It could be computed on the basis of the overhead cost of either rail or truck. What is of primary importance is that rates reflect differences in marginal costs and that discrimination be minimized or eliminated. It is possible, although by no means certain, that the total output of transport services may be larger under rate discrimination, but rates predicated upon differences in marginal cost must surely effect a more efficient allocation of resources generally1. •

(Resume Reading on Page 40)

For full discussion of this proposition see J. R. Sargent, British Transport Policy, Oxford Press, 1958.



Conveyors ...

(Continued from Page 41)

convenient to the stores department which was moved from the east to the west end of the older part of the plant. Eighty per cent of the finished cathode ray tubes are shipped by rail.

The railroad dock is at the extreme south side of the new warehouse, fronting the length of the cathode ray warehousing area. Twenty per cent of cathode ray tubes and nearly all receiving and power tube shipments move by truck. Now the shipping truck dock is convenient to cathode ray tube warehousing and immediately next to the area where receiving tubes and power tubes are branded and packed just prior to shipment. The warehoused stocks of the last two products are stored close to the branding and packing areas.

Wall Erection

Next, walls were erected and higher temperature heating provided where workers jobs demanded it. That way, truck and train dock doors can be opened in bad weather without discomfort to any but those men who are directly engaged in receiving or shipping goods.

The customer service department was moved from the office area, at the extreme east end of the plant, to the enclosure near the shipping operations.

The unloading of small packages from trucks to the checkoff area was conveyorized. Bulbs which are rejected from production because of glass faults now are moved by roller conveyor to a hold area where a supplier's agent can examine them. An area for collection of saleable scrap metals and cardboard has its own outside truck dock. A disposal plant is located next to a dock, and in line with drains. The sludge from its process moves in drums by roller conveyor to a dump truck in the truck well.

But one of the most advanced materials handling systems, in warehousing, is devoted to cathode ray bulb and tube receiving, storing, and transport. Because boxes for cathode ray bulbs are so large and awkward, tube packing was moved

to a point next to where bulbs are unpacked. The trip from testing is accomplished by conveyors which travel over the color tube section.

Bulbs come by tractor trailer to the receiving dock. Fork trucks move pallet loads from the trailers to a double-decked, roller conveyor rack which holds about 7500 bulbs. Being sloped, the roller conveyors move the pallet loads from the charging to the discharging end as successive loads are removed for production. Twelve rows of racks, double-decked, allow accessibility of any of several types which can be monitored to production.

Pallet loads are removed as required from the rack and deposited on any one of five roller conveyors leading to lifts which can be lowered into the floor. Here again a mix of bulb types is provided for. Skid loads are three boxes high, with each box containing 10 or more bulbs. The top box could not be emptied without lowering devices, previously it had been necessary to remove the top box by hand and fork truck.

(Please Turn Page)



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Conveyors ...

(Continued from Preceding Page)

As bulbs are removed from the boxes and placed on the overhead cable conveyors, which take them to production, the emptied boxes are moved onto conveyors leading to the repacking position. A cross conveyor is provided for moving some boxes to a hold area. This is necessary because some types of bulbs, introduced at different times, take considerable time through processing into tubes. Their special boxes must wait for refilling until their tubes' processing cycle is completed. The conveyor is partially powered so that operators do not leave their positions to push them to their hold

Finished tubes arrive from the painting operation on an overhead tube conveyor. Operators move the boxes from the box conveyor to another roller conveyor for refilling. Tubes, taken from the overhead finished tube conveyor, are placed into the boxes. They pro-

gress, when filled, two boxes high, to a powered, then to a roller conveyor for accumulating.

Periodically, a fork truck moves the palletized tubes to a hold area where it is the practice to hold tubes for three days, in lots. At the end of that period, samples are retested. If the sample passes, the lot is ready to be sent to the warehouse

The round trip to warehouse and return to hold is about one quarter mile. Movement of tubes to warehouse is accomplished by an operator-less, electronically guided tractor pulling two trailers which can carry the equivalent of two fork truck loads each.

Now, there is no longer a satisfaction in working out only today's difficulties. Current planning is for future accomplishment. Some of the new methods contemplated are unloading of trucks by gravity, loading and unloading of the cathode ray bulb rack by elevators. The present layout and equipment will lend themselves to these goals.

(Resume Reading on Page 42)



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MH Progress...

(Continued from Page 42)

unit is on the market. It is a powered floor conveyor, installed in new or existing vehicles, to handle not only loads on pallets but also barrels, drums, crates, and similar containers.

A more specialized variety is a chain conveyor for handling cased goods for dairies and beverage concerns in both loading and delivery operations. An obvious advantage inherent in such equipment is that the need for having hand or power machines enter the truck to drop or pick up loads is eliminated.

A truck or trailer which squats down to street level and can be elevated to any desired height is still such a novelty that people stand and stare when they see it being used to deliver ltl freight. The adjustable level feature solves the difference in platform heights during loading and is a boon at the point of delivery.

Progress is being made in the case of unit load handling without pallets, or with thin, expendable pallets.

In this connection, we are faced with two situations. First of all, new grabs, clamps, and similar front-end attachments are whittling down the list of products which must be palletized so rapidly that we may some day wake up to find that our present methods are completely out of date.

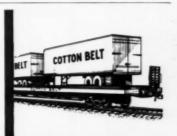
But secondly, when one makes a change in shipping methods he cannot play a lone-wolf game. Paper separators between unit loads and thin pallets necessitate the consignee having special forks or possibly a push-pull attachment. Arbitrarily sending out shipments which the receiver is not prepared to handle efficiently will not win friends.

Sometimes the materials handling engineer has a real selling job on his hands to influence others, but if the proposed method has merit he usually can persuade others to cooperate with him in making it effective for all concerned.

The planning of new buildings around the flow of product from receipt to delivery is being reduced to a science. The Johnson and Johnson project in New Brunswick, N. J., incorporates the best of present-day thinking along these lines. It is best described as a multiple-plant arrangement, each building housing a distinct manufacturing unit, but the whole connected for product handling—both raw and finished.

Room for individual expansion has been amply worked out. But one feature of this new facility, or rather one might say group of facilities, does not seem to have been stressed sufficiently. This is the way in which several different kinds of handling procedures have been integrated. Here one can see hand pickers assembling orders on floor trucks, unit loads being tiered and broken down by fork lifts, and a system of electronically controlled in-floor towing conveyors. Each type of handling is performed at its best, the result being a highly efficient, smooth-functioning operation.

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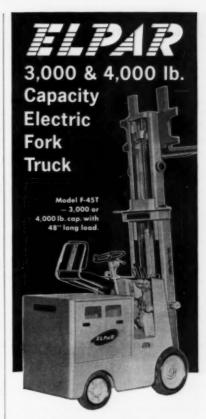


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MH Progress ...

(Continued from Preceding Page)

Radical, too, are the advances being made in the methods of building construction. Every effort provides for structures which give free-rein to the materials handling man in the use of modern equipment and techniques.

And woe to the one responsible for such activities in old buildings if he does not keep posted on what is going on in these new facilities. He can never tell what day he will be called in to confer on plans for a new structure because management has become convinced that salvation only lies in a more efficient layout.

The ever-spreading network of super highways and improved rail freight and express service—not to mention the miracles of air delivery—are having marked effects on distribution and hence on handling and storing methods.

Overnight delivery is becoming the dominant aim. As a result, certain strategically located cities have become distribution centers from which deliveries can be made in practically any direction on an overnight basis. Another consequence of such a setup has been a complete change in our concept of inventory requirements.

The smart wholesaler and manufacturer located near one of these distribution points is saying to himself, "Why should I tie up my money in inventory and in a facility to house it when I can have replacements delivered to my door the day after I place an order?" And so the inventory burden is being passed back along the line of distribution.

What is this change in distribution philosophy doing to handling and storing? Timing is becoming a controlling factor in successful operations. Receiving and delivering activities have to be carefully planned and scheduled to a fine degree. In one such instance, it has been found possible to work things out so that a truck arrives, is unloaded, the shipment checked and then passed on into a waiting carrier which delivers the merchandise the next morning without its having been placed in storage at any point en route.

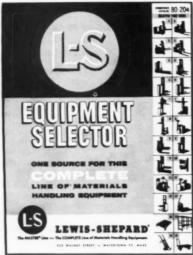
To the casual observer, the setup looks ideal, but he overlooks the fact that it just didn't happen that way—it has been made to happen. Someone had to have the vision to foresee the possibilities and then to work out the details such as rearranging the time schedules of the in- and out-loading crews and winning the cooperation of the companies involved. But perhaps the most significant part of the picture is that the new procedures were made possible without investing a cent in new equipment.

As a matter of fact, a storage facility that was screaming for more space has suddenly become more than adequate. It is meeting and licking such problems as these that make materials handling the fascinating activity that it is.

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a form of depreciation. This carries with it a negative connotation. It is like friction. When we mention the word, we are more apt to think of the continuing fight to overcome an objectionable force, than to think of its many beneficial applications, as in controlling the rate of descent on chutes and conveyors or on brake bands that bring cars to a stop. If obsolescence is to be considered as depreciation, then the sooner we look upon it as a benign evil, the better.

In studying a new setup, or even when following the healthy practice of reviewing present methods with the view of bettering them, the discipline of actually making a materials handling survey is highly recommended. However, instead of just five categories into which the study normally is divided, this sixth should be added:

6. Developments which have taken place since this study was last made, or which appear in the offing as having a bearing on this particular problem.

When it comes to the purely monetary aspects of obsolescence, we need sound facts. Every piece of materials handling equipment is an economic tool—it must amortize itself within a reasonable length of time. Here we must part company with the accounting concept of physical depreciation. What does it profit anyone if a machine has a potential service life of ten years, when it may be shelved because of better equipment within a shorter time?

The only safe bet is to anticipate the possibility of obsoles-

cence—to base one's calculations on the machine paying for itself out of projected savings within, at the minimum, three years. Of course, one can be still more conservative and, so to speak, pull in his mental belt a couple of notches and limit the time to two and a half or even two years. And, of course, the projected savings must be based on sound figuring, without the element of wishful thinking.

(Resume Reading on Page 43)



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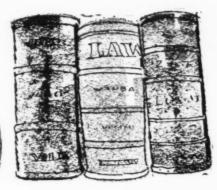
Inquiries strictly confidential BOX 250, DISTRIBUTION AGE



within the LaW

By Leo T. Parker Legal Consultant, Distribution Age





TRANSPORTATION

Does liability for goods damaged in transit require more than cost of repairs to merchandise?

Yes. A higher court recently rendered an important decision which clearly answers this question asked by an official of a transportation company, as follows: "If our employes damage equipment or merchandise during transportation is our liability limited to the cost of making repairs to put the equipment or merchandise in exactly the same condition it was before we accepted the same for transportation?"

It is true that in some cases the measure of damage in the case of equipment or merchandise which has been damaged but not destroyed is the cost of the repairs. This is not the rule, however, where the market value of the property damaged, after being repaired, is less than its market value immediately before the accident.

For illustration, in K— E— Co. v. W— E— Co., 269 Fed. (2d) 147, the testimony showed facts, as follows: The K— E— Co. had placed an order with W— E— Corp. for the three transformers to be installed at the G— R— M— Div. of the F— L— J— Co. The purchase price was \$9810.

A conference was held at which representatives of the K—— Co. and the J—— Co. were present, along with a sales engineer from W——. An attempt was made to persuade that company to accept the repaired transformers as new equipment at the original price. The testimony showed that, after the transformers had been repaired, they were as good functionally as they had been at the time of

the original shipping from W—. Nevertheless, the officials of the J—Co. would not accept the transformers. Finally an agreement was reached and the J—Co. accepted the repaired devices at a valuation of \$6108.50. This price, deducted from the original price of \$9810 showed a depreciation of \$3701.50.

In subsequent litigation, the higher court held that the carrier could not be charged with the depreciation on the transformers particularly because the seller and consignor admitted that transformers were as good as new after repair of the damages incurred during the transportation. In this respect the court said that since the sellers' president and vice president were satisfied that the transformers were as good as new after repairs it is difficult to understand how it (seller) can come before this court and attempt to force the defendant carrier to pay a greater amount in damages because of the inability of plaintiff's executives to persuade a customer to accept the goods.

The court held that the seller can recover from the carrier damages, including the cost of repairs and the cost of shipping the transformers to and from the repair station.

Does a disability insurance policy broadly cover a truck driver who incurs an accident?

Yes. For instance, in I-I-I co. v. M-, 326 S. W. (2d) 437, it was shown that one N- was employed as a truck driver by S-— T—— Co., and was enroute from Cincinnati, Ohio, to Chattanooga, Tenn. While so enroute he stopped at P- A- Truck Stop at Rockwood, Tenn. He alighted from the truck, started into the cafe, and then noticed that his truck was moving. In an effort to prevent an accident, N- jumped onto the running board of the truck, reached inside the cab and applied the brakes by means of a hand control. Upon the brakes being applied the vehicle came to a sudden stop and N—— was jerked from the running board to the ground causing serious injury to his back. He was disabled for a period of five months and was confined to a hospital several days.

At the time of the injury N—held an insurance policy which provided that he could collect disability insurance for injuries sustained only while he was "driving" a motor vehicle.

The insurance company refused to pay insurance to N— on the contention that N— was not injured while he was driving the truck. The higher court refused to agree with this contention, and ordered the insurance company to pay disability benefits to N—, saving:

benefits to N—, saying:
"We are of the opinion that the appellee (N—) was driving his truck within the meaning of the policy sued on in the present case. We think the acts of the insured amounted to a driving of the truck."

If a motor truck is leased to a carrier must the original seller pay the sale and use taxes?

According to a higher court decision recently, if a motor truck is leased to a carrier, such carrier is a legal purchaser of the truck. Therefore, the original seller can avoid payment of the state's "sale and use" taxes.

For example, in S—v. Y—, 160 N. E. (2d) 300, the testimony showed that one S—purchased a new motor truck and leased the truck to a motor carrier for use solely and directly in rendition of a public utility service and delivered possession of truck to carrier.

In later litigation, the higher court held that actually the truck was "sold" by S—— to the carrier within the meaning of state sales tax statute and it was purchased by S—— for the purpose if reselling it within contemplation of such statute. Hence the vehicle was not subject to either the sales or use tax.

Suddath Elected MWA President At 25th Annual Convention

At its 25th Annual Convention recently, the Movers' and Warehousemen's Association of America, Inc., elected Richard H. Suddath president.

Others elected to office were: Joseph W. Engle, executive vice president; John J. Rapp, secretary; and Herman D. Bader, treasurer.

The Association enjoyed a full compliment of speakers during its Convention. They included Welby M. Frantz, president of the American Trucking Associations, Inc.; Maj. Gen. I. Sewell Morris, Military Traffic Management Agency; and Interstate Commerce Commissioner Clyde E. Herring.

Research on the Refrigeration of Perishable Commodities is the title of this year's Annual Report of the Refrigeration Research Foundation, now available by writing to the Foundation at 12 N. Meade Ave., Colorado Springs, Colo.

-DA-

Warehouse Briefs

The new \$250,000 world-wide headquarters of Atlas Van-Lines, Inc., were opened recently in Evansville, Ind.

Movers honored by North American Van Lines, Inc., for quality packing, hauling, storage, and estimating include Amick Transfer and Storage Co., Denver, Colo.; Approved Storage and Moving Service, North Hollywood, Calif.; Coast Lee and Eastes, Inc., Astoria, Ore.; B. R. Miller, Southampton, N. Y.; North American Van and Storage Co., Peoria, Ill.; and F. D. Pettis Trucking Co., Binghamton, N. Y.

Abb's Moving Service of Mobile, Ala., recently moved into a new modern one-story warehouse consisting of 33,000 sq ft of storage space for household goods and merchandise, two rooms for overstuffed furniture and rugs—complete sprinkler system; all at 554 S. Royal St.

City Movers, Ltd., Kirkland Lake, Ontario, is a new agent of Aero Mayflower Transit Co., Inc.

In recognition of its drivers' safety records, Allied Van Lines, Inc., has instituted the Allied Senior Driver Award System of awarding insignias to exceptional drivers who qualify.

Warehouse SPOTLIGHT



Men in the Spotlight

Harry F. Linaugh—appointed executive vice president, Atlas-May-flower Storage Co., Philadelphia.

John T. Sobosan—new Fort Wayne sales manager, North American Van Lines, Inc.; Robert Smith—assistant sales manager.

Edward C. Gillett—named Southwest regional manager; Cliff Cambern—Western regional manager, Global Van Lines.

E. H. Brockelmann — appointed transportation consultant, Lyon Van and Storage Co.

Joseph E. Morgan—promoted to general manager, Vandalia Warehouse Corp., Vandalia, Ill.

AMI Elects A. E. Crowe President

The recently incorporated American Movers Institute has elected Alfred E. Crowe president. The president of Vet Vans of Virginia, Arlington, will hold office until September of this year.

Other officers elected to serve until September are H. C. Owings, Jr., Trans-Vans, Inc., Norfolk, Va., vice president; J. Parker New, New-Bell Storage Corp., Norfolk, secretary; John Bittenbender, American Storage Co., Washington, D. C., treasurer; and Thomas F. Robertson, executive director.

NVL Agent's Council Meeting



Shown attending the recent Agent's Council Meeting of the National Van Lines, Inc., are (front, left to right) Ray Carruthers, Carruthers Movers, Syracuse, N. Y.; W. A. Mowry, general sales manager, National Van Lines, Inc.; Frank L. McKee, president of NVL; Florence Smith, administrative assistant to the president; and George Thomas, Thomas Transfer and Storage, Palo Alto, Calif. Standing are: W. Walker McGann, operations manager, NVL; Vernon Evans, Eads Transfer and Storage, Portland, Ore.; Lofton Merritt, Merritt Moving and Storage, Jacksonville, Fla.; Emmett Charbonnet, Cand W Transfer and Storage, New Orleans, La.; Arthur Tiemann, Rhoades Transfer and Storage, Austin, Tex.; Duane Quamme, assistant general sales manager of NVL; and Dale Allen, Grey Transfer and Storage, Wichita, Kans.

Warehouse Directory

Listed below are approximately 300 public warehouses whose services are advertised in this issue of DISTRIBUTION AGE. The listing is alphabetical by city and state. Included are general merchandise warehouses, refrigerated warehouses, and household goods warehouses. Also listed are a number of national warehouse sales organizations.

Additional information on the services and facilities of particular warehouses shown in the listing can be obtained by turning to the advertisements on the following pages. Generally the advertisements appear in the same geographical, alphabetical sequence as the listings below. Still more information can be had by writing directly to the warehouse.

ALABAMA

Birmingham Doc's Tfr. & Warehouse, Inc. Harris Warehouse Co. Strickland Tfr. & Whse. Co.

ARIZONA

B-Z-Bee Transp'n. & Whse. Co. Lightning Mvg. & Whse.

CALIFORNIA

Los Angeles Los Angeles
Bekins Warehousing Corp.
California Cartage Warehouse
California Warehouse Co.
Central Term. Whse. Co.
Davies Warehouse Co.
Lyon Van & Storage Co.
Overland Term. Warehouse Co.
Pacific Coast Term. Whse. Co.
Pacific Commercial Whse., Inc.
Star Truck & Whse. Co.
Union Terminal Warehouse
San Diago.

San Diego Lyon Van & Storage Co.

San Francisco Ban Francisco Whse. Co. COLORADO

Colorado Springs Weicker Tfr. & Stge. Co.

Denver Alpine State Warehouse Larsen Tfr. & Stge. Co. North Denver Tfr. & Stge. Weicker Tfr. & Stge. Co.

Pueblo

Welcker Tfr. & Stge. Co. CONNECTICUT Bridgeport

William B. Meyer, Inc. Hartford

George E. Dewey & Co. Hartford Despatch & Whse. Co., Inc.

DELAWARE

Delmarva Whses., Inc.

DISTRICT OF COLUMBIA Washington

Davidson Tfr. & Storage Co. Kane Warehouse Company Terminal Stge. Co. of Wash.

FLORIDA

Jacksonville Jacksonville Warehouse Co. Laney & Duke Stge. Whse. Co.,

Inc.

Inc.

M & M Terml. Whse. Company
Peninsular Whse. Company
Union Terminal Whse. Co. Miami

Colonial Warehouse, Inc. International Bonded Whse. Corp. Santini Bros., Inc.

Tampa Caldwell-Neal

GEORGIA

Atlanta American Bonded Whse. Savannah

Savannah Bonded Whse. & Tfr.

HAWAII

Honolulu H C & D Mvg. & Stge.

ILLINOIS

Cairo Hudson Warehouses

Chicago

Chi Wakem & McLaughlin, In Western Warehousing Co.

Chicago Heights

United Warehousing Co.

East St. Louis McMahon Transfer & Whse. Co. Mid-America Trml. Whse.,

Inc. C. J. Nooney & Co.

Joliet Whse. & Tfr. Co.

Kankakee

Belt Route Whse. Stge. Co.

Peoria

United Whsing. Facilities, Inc. Vandalia

Vandalia Whse. Corp.

INDIANA

Elkhart

Schult General Warehouse

Evansville

Ingle Street Warehouse Co. Mead Johnson Terminal Corp. Producer's, Inc. Terminal Warehouse, Inc.

Fort Wayne

Edgar's Warehouses Fort Wayne Storage Co., Inc. Pettit Whses., Inc.

Hammond

Great Lakes Whse, Corp. Illiana Storage Co., Inc. Nowak Warehouses, Inc.

Indianapolis

Indiana Term'l. & Refrig. Co. Indianapolis Whse. & Stge. Co., Merchandise Whse. Co., Inc. Strohm Whse. & Cartage Co.

Jeffersonville Jeffersonville Div. of Louisville Public Whse. Co.

Muncie Oren-Shively Whses. IOWA

Cedar Rapids American Tfr. & Stge. Co. Cedar Rapids Tfr. & Stge. Co.

Davenport Roederer Transfer & Storage

Dubuque Dubuque Stge. & Tfr. Co.

KANSAS

Hutchinson Hutchinson Merchandise Whse.,

Kansas City G-K Warehouses, Inc.

KENTUCKY

Louisville Louisville Public Whse. Co.

Winchester

Winn Avenue Whses., Inc. LOUISIANA

New Orleans H. G. Bauer Myg. & Stge. Commercial Term'l Whse., Inc. Gulf Shipside Storage Corp. Hayes Drayage & Storage, Inc. Maloney Tking. & Storage, Inc. Standard Warehouse Co., Inc.

MARYLAND

Baltimore

Camden Warehouses Davidson Transfer & Stge. Co. Rowley Whsing. & Distribut-Rowley Whsing. & Distribuing, Inc.
Western Maryland Whse. Co.

MASSACHUSETTS

Boston

Charles River Stores operated by Merchants Whse, Co. Commodity Warehouse Corp. Hoosac Storage & Whse, Co. National Dock & Stge, Whse.

Co. Standard Storage Co. Wiggin Terminals, Inc.

Lowell

Curran-Morton of Lowell, Inc. Springfield Pioneer Valley Refrig. Whse.,

MICHIGAN

Detroit

Detroit
Central Detroit Whse. Co.
Detroit Harbor Term'ls, Inc.
Edgar's Warehouses
Fleetwing Terminal Corp.
Grand Trunk Whse. & C. S. Co.
John F. Ivory Storage Co., Inc.
Jefferson Terminal Whse.
Lakeshore Warehouse Inc.
United States Cold Stge. Corp.

MINNESOTA

Minneapolis

Minneapolis Terminal Whse. Co. Murphy Warehouse Co. Security Warehouse Co.

St. Paul Central Warehouse Co. Murphy Warehouse Co. St. Paul Term'l Whse. Co.

MISSOURI

Kansas City Adams Tfr. & Storage Co. Belger Warehouse Co.

Belger Warehouse Co. Central Storage Co. Crooks Terminal Whses., Inc. Fairfax Storage Co. G-K Whses., Inc. Jacobs Warehouse Co., Inc. Kansas City Termi. Whse. Co. Midwest Terminal Whse. Co.

St. Louis

Keystone Warehousing Co. S. N. Long Warehouse Madison St. Terml. Whse. Corp Rutger St. Whse., Inc. St. Louis Terminal Whse. Co. Tyler Whse. & Cold Stge. Co. Warehousing Corp. of Mo., Inc

Springfield General Warehouse Corp.

NEBRASKA

Lincoln Sullivan Tfr. & Stge. Co.

Omaha Ford Stge. & Mvg. Co. Gordon Stge. Whses., Inc. Omaha Central Whse. Co.

NEVADA

Elko Nevada Freeport Storage Co

NEW HAMPSHIRE Manchester

McLane & Taylor Corp.

NEW JERSEY

Bayonne Lehigh Tank Terminal Wheeling Transportation, Inc.

Camden

Camden Marine Terminals
Eavenson & Levering Div. of
Mack Whse. Corp.

Elizabeth

Wheeling Transportation, Inc. Hillside

Wheeling Transportation, Inc. Jersey City

Cooke Warehouse Corp., J. Lackawanna Whse. Co., Inc. Linden

Linden Warehouse

Newark

Federal Stge. Whses. Lehigh Whse. & Trans. Co.

Paterson

Commercial Warehouses Port Newark

Wheeling Transportation, Inc.

Anchor Warehouse Co. Delaware Valley Whse. Co.

NEW YORK

Brooklyn Dock Whsing. & Bottling Center, Inc. Empire State Whses, Co.

American Household Stge. Co. Buffalo Merchandise Whses.,

Inc.
Keystone Warehouse Co.
Knowiton Warehouse, Inc.
Laub Warehouse
Lederer Terminals
Wilson Warehouse, Inc.

Deer Park, L. I. Pinter Warehouse, Inc.

Horseheads Lehigh-Horseheads Whse. Corp.

New York City New York City
Affiliated Whse. Companies
American Chain of Whses., Inc.
Bowling Green Sige. & Van Co.
Chelsea Fireproof Sige. Whses.
Santini Brothers, Inc.

Rochester

Geo. M. Clancy Carting Co., Inc.

Syracuse Great Northern Whses., Inc. King Storage Whse., Inc. Paul-Jeffrey Company

White Plains J. H. Evans & Sons, Inc.

NORTH CAROLINA

Charlotte American Stge. & Whse. Co., Inc. Dixie Cartage & Whsing. Co.

Raleigh Carolina Stge. & Dist. Co. Raleigh Bonded Whse., Inc.

NORTH DAKOTA

Fargo Union Storage & Tfr. Co.

OHIO

Akron Cotter Merchandise Stge. Co. Cincinnati Term. Whses., Inc. Cleveland

Assembly Distribution Service, Lancaster Storage Co. Inc. Lederer Terminals National Terminals Corp. Neal-Caldwell

Columbus

Central Ohio Warehouse Co. Columbus Terml. Whee. Co. Merchandise Whse. Co. Ohio Warehouses, Inc.

Dayton Dayton Warehous Union Storage Co. Warehouses, Inc.

Toledo

Edgar's Warehouses Great Lakes Terml. Whse. Co. Merchants & Mfrs. Whse. Co. Toledo Terminal Whse., Inc.

Youngstown Lederer Terminals

OKLAHOMA Oklahoma City O. K. Tfr. & Stge. Co. Public Warehouse Co., Inc.

Tulsa General Warehouse Corp.

OREGON

Portland Holman Transfer Co. Oregon Transfer Co. Rapid Transfer & Stge. Co. Rudie Wilhelm Whse. Co.

PENNSYLVANIA Allentown Hummel Warehouse Co., Inc.

Butler Nicholas Tfr. & Stge. Co. Erie

Erie Storage & Carting Co. Erie Warehouse Co. M. V. Irwin Moving & Stge., Inc.

Harrisburg Harrisburg Storage Co. Harrisburg Warehouse Div., Western Whsing. Co. Pennsylvania Comm. Whse. Co. Lancaster

Philadelphia
Commercial Warehousing Co.
Melville Warehouse Co.
Merchants Whse. Co.
Pennsylvania Whsing. & Safe
Deposit Co.
Terminal Warehouse Co.

Pittsburgh Beacon Warehouse, Inc. White Terminal Co.

Scranton Mifflin Warehouse Co. Quackenbush Warehouse Co.

RHODE ISLAND Newport Manuel Brothers, Inc.

SOUTH CAROLINA Charleston Berkeley Storage Co. Charleston Whse. & Fwdg. Corp. Columbia

Carolina Bonded Stge. Co. Greenville Beattie Bonded Whse. Co.

TENNESSEE

Chattanooga Whse. & C.S. Co. Chattanooga Memphis

Mayer Whse. & Terml., Inc. Midwest Terminal Whse. Co. Poston Warehouses, Inc. Vaiden Warehouse Nashville

Bond, Chadwell Co. Central Van & Stge. Co.

TEXAS

Great Southwest Whses., Inc. Mayflower Warehouses (Ameri-can Transfer & Stge. Co.)

El Paso El Paso Terml. Whses., Inc. Western Warehouses Fort Worth Binyon O'Keefe Stge. Co.

Houston American Warehouses, Inc. Houston Central Whee. & C.S.

Houston Term. Whse. & C.S. Co. Houston Warehouse Service,

Inc.
T.P.C. Stge. & Tfr. Co., Inc.
Texas Service Whise. Co.
Union Transfer & Stge. Co.
Universal Term. Whise. Co.
Wald Terml. Whise. Co., Inc.

UTAH Salt Lake City Noyce Transfer Co. Redman Van & Storage Co.

VIRGINIA

Norfolk Security Storage & Van Co. Southgate Term. Whse. Co.

WASHINGTON

Seattle Transfer & Stge. Co. Taylor-Edwards Whee. & Tfr. Co., Inc.

Spokane
Riverside Warehouses, Inc.
Taylor-Edwards Whse, & Tfr.
Co., Inc.

WEST VIRGINIA

Huntington Service Warehouse Corp.

WISCONSIN

Green Bay Leicht Tfr. & Stge. Co.

Madison Hansen Stge. of Madison, Inc. Milwaukee erican Warehouse Co.

American Warehouse Co. Hansen Storage Co. National Warehouse Corp. Terminal Storage Co.

CANADA Toronto, Ont.
Howell Warehouses Ltd.
Terminal Warehouses Ltd.
Toronto Storage Co. Ltd.

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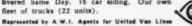
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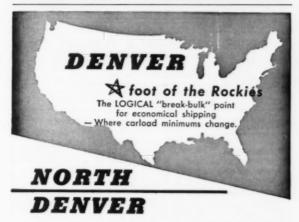
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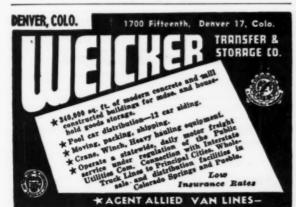
* HANDLING METHODS

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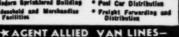


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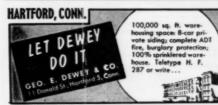
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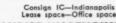
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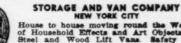
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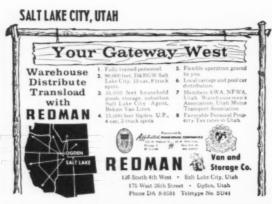
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TOC Convention

(Continued from Page 55)

training is up to the operations executives. They should work up a training program that includes everybody from dock supervisors to truck drivers.

"Such a program," continued Bray, "need not be difficult or complicated. The basic elements are: Tell him; show him. Of course, to be successful this must be a neverending job."

Transportation Act

Tuesday's luncheon speaker expressed alarm and reported grave consequences resulting from the 1958 Transportation Act. Guy B. Perry, general manager of the Houston Port Bureau, said this amended law "literally promoted conflict" and spurred a "price war" among the various forms of transportation.

"I am alarmed by the continued advocacy of the principle of 'survival of the strong' as a solution of our present regulatory muddle. We are not going to find ourselves with a strong survivor.

"I have no cause to believe that the public interest is best served through selective rate cutting designed to divert traffic between common carrier agencies, and hold that the public is more often victim than beneficiary under the procedure. It is my opinion that a firm, well-related rate structure accomplishes far more in orderly marketing arrangements than does a structure shaped through the compulsion of carrier competition."

TOC members and guests assembled for the Awards Luncheon. The speaker was Welby M. Frantz, president, ATA, and executive vice president, Eastern Express, Inc., Terre Haute, Ind. He challenged the "contention of the railroads that their industry is headed for financial disaster unless given authority to move wholesale into the trucking industry.

"They know, and so does everyone who has taken the trouble to look into the problem, that their main trouble is their passenger deficits. Some may need relief there—but not at the expense of the independent motor carriers and the shipping public."

Frantz then pointed out that the railroads' financial problem would not be solved by their entry into the trucking business solely for the revenues available. To support this premise, he said, "If the railroads had been able to get all the freight carried by the 3100 largest trucking companies in 1958, they would have increased their net income before taxes by about \$135 million.

"If this income had been distributed among the 110, or so, railroads, they would have averaged a little more than \$1.2 million apiece. But their passenger deficit that same year totaled \$610 million. This is nearly five times the theoretical profit the railroads might have realized if they had all the trucking business."

In conclusion, Frantz urged the railroads to cooperate voluntarily with existing motor carriers in the exchange of freight, instead of trying to take over the independent trucking industry. Through such cooperation, he said, "all forms of transport can work together to the benefit of the shipper, the consignee, and the general public."

After his address, Frantz presented awards to five officers and members of The Operations Council for their work in behalf of the Council during 1959. The recipients were: Council Chairman Claude Wells, vice president-operations, and R. J. Ehrhardt, director of industrial relations, both of McLean Trucking Co., Winston-Salem, N. C.; C. L. Lunt, vice president-research, Spector Freight System, Inc., Chicago; Dave D. Padgett, vice president-operations, Yellow Transit Freight Lines, Inc., Kansas City, Mo.; and Henry Lill, terminal manager, Ryder System, TSC Division, Houston.

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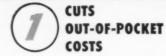
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